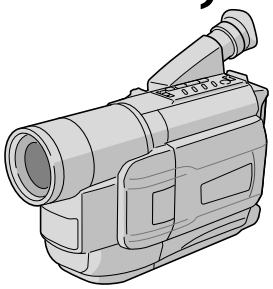
JVC

SERVICE MANUAL

COMPACT VHS CAMCORDER

GR-FXM383EG,SXM28EG, SXM58EG,SXM780A



S-VHS C VHS PAL 625

Super VHS

Super VHS ET

Regarding service information other than these sections, refer to the GR-FXM38EG, SXM48EG service manual (No. 86655). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-SXM78EA/SXM48EA/ SXM780A/SXM480A/SXM280A/SXM180A/SX140A)*

Camcorder

General

Format	: S-VHS/VHS PAL standard
Power source	: DC 11 V ⎓ (Using AC Adapter) DC 6 V ⎓ (Using battery pack)
Power consumption	
Viewfinder on	: 4.0 W (GR-SXM78EA/SXM48EA/SXM780A/SXM480A/ SXM280A/SXM180A only) 3.7 W (GR-SX140A only)
LCD monitor* on	: 4.5 W (GR-SXM78EA/SXM48EA/SXM780A/SXM480A/ SXM280A/SXM180A only)
Video light**	: 3.0 W

* Applicable models only.
** GR-SXM78EA/SXM48EA/SXM780A/SXM480A/SXM280A only.

Signal system	: PAL-type
Video recording system	
Luminance	: FM recording
Colour	: Converted sub-carrier direct recording Conforms to VHS standard
Cassette	: S-VHS C / VHS C cassette
Tape speed	
SP	: 23.39 mm/sec.
LP	: 11.70 mm/sec.
Recording time (max.)	
SP	: 60 minutes
LP	: 120 minutes (with EC-60 cassette)
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C
Weight	: Approx. 910 g (GR-SXM78EA/SXM48EA/SXM780A/SXM480A/ SXM280A only) Approx. 900 g (GR-SXM180A only) Approx. 850 g (GR-SX140A only)
Dimensions (W x H x D)	: 200 mm x 112 mm x 118 mm (GR-SXM78EA/SXM48EA/SXM780A/SXM480A/SXM280A/ SXM180A only) 200 mm x 112 mm x 115 mm (GR-SX140A only) (with the LCD monitor* closed and with the viewfinder fully tilted downward)

* Applicable models only.

Pickup	: 1/6" format CCD
Lens	: F1.6, f = 3.9 mm to 62.4 mm, 16:1 power zoom lens with auto iris and macro control, filter diameter 40.5 mm
Viewfinder	: Electronic viewfinder with 0.5" black/white CRT
White balance adjustment	: Auto/Manual adjustment
LCD monitor (Applicable models only)	: 3" diagonally measured, LCD panel/TFT active matrix system (GR-SXM78EA/SXM780A/SXM480A only) 2.5" diagonally measured, LCD panel/TFT active matrix system (GR-SXM48EA/SXM280A/SXM180A only)
Speaker (Applicable models only)	: Monaural

Connectors

Video	: 1 V (p-p), 75 Ω unbalanced, analogue output (via Video output connector)
Audio	: 300 mV (rms), 1 kΩ analogue output (via Audio output connector)
Digital (GR-SXM78EA/SXM780A only)	: ø3.5 mm, 4-pole, mini-head jack
S-Video	: **Y** : 1 V (p-p), 75 Ω, analogue output **C** : 0.30 V (p-p), 75 Ω, analogue output

AC Adapter

Power requirement	: AC 110 V — 240 V∿, 50 Hz/60 Hz
Output	: DC 11 V ⎓, 1 A

Optional Accessories

- **Battery Packs BN-V12U, BN-V20U, BN-V400U**
- **Compact S-VHS (S-VHS C) Cassettes SE-C45/30**
- **Compact VHS (VHS C) Cassettes EC-60/45/30**
- **Remote Control Unit RM-V700U**
- **Active Carrying Bag CB-V7U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

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No. 86664
January 2002

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The following table indicate main different points between models GR-FXM38EG-X and GR-FXM383EG-X.

ITEM \ MODEL	GR-FXM38EG-X	GR-FXM383EG-X
BODY COLOR	SILVER	MOLD BRACK
DC LIGHT	Not Used	Used

The following table indicate different parts number between models GR-FXM38EG-X and GR-FXM383EG-X.

FINAL ASSEMBLY <M2>

⚠ REF. NO.	ITEM \ MODEL	GR-FXM38EG-X	GR-FXM383EG-X
101	CASSETTE COVER(M)ASSY	LY20694-002B	LY20694-010A
103	UPPER CASE(M)	LY10257-041A	LY10257-042A
125	TOP OPERATION UNIT	LY20614-014C	LY20614-010C
130	REAR UNIT	LY20615-005F	*LY20615-005E
135	FRONT COVER ASSY	LY20683-030A	LY20683-031A
135F	COVER(LIGHT)/DC LIGHT	LY30934-022A	LY32040-001A
135G	STICKER(A)	LY32058-001A	LY32058-002A
135J	SPACER(A)	—	LY30029-0B4A
⚠ 135K	CAUTION LABEL	—	YQ44341-6
139	SCREW	—	*QYSPSTU1725M
140	FRAME ASSY	LY20832-002B	LY20832-001B
140E	CONTACT(LIGHT),X2	—	YQ43810-1-1
140F	E-SI C WIRE C-F	—	WJM0259-001A
142	SCREW	QYSPSPU1720Z(,x2)	*QYSPSPU1720Z(,x1)

MONITOR ASSEMBLY <M5>

⚠ REF. NO.	ITEM \ MODEL	GR-FXM38EG-X	GR-FXM383EG-X
⚠ 500	MONITOR ASSY	LY20836-002A	LY20836-003A
⚠ 501	MONITOR COVER ASSY	LY20834-002A	LY20834-003A
505	HINGE COVER(UPPER)	LY31939-001A	LY31939-003A

MAIN BOARD ASSEMBLY <01>

⚠ REF. NO.	ITEM \ MODEL	GR-FXM38EG-X	GR-FXM383EG-X
PW1	MAIN BOARD ASSY	YB10356EA1-01	YB10356EG1-01
Q6306	MOS FET	—	SSM3K02F
R6306	MG RESISTOR	—	NRS12BK-R47W
R6307	MG RESISTOR	—	NRSA63J-104X
C6307	E CAPACITOR	—	NEA71CM-106X
CN6	CONNECTOR	—	QGA1201C2-02X

Notes : Mark — is not used.
Mark : * reference model was also changed.

The following table indicate main different points between models GR-SXM48EG-X, GR-SXM28EG-F, GR-SXM58EG-X, GR-SXM58EG-Y, GR-SXM58EG-Z and GR-SXM780A.

ITEM \ MODEL	GR-SXM48EG-X	GR-SXM28EG-F	GR-SXM58EG-X	GR-SXM58EG-Y	GR-SXM58EG-Z	GR-SXM780A
DC LIGHT	Used	Not Used	Used	←	←	←
LCD MONITOR	2.5”	←	←	←	←	3”
DIGITAL TERMINAL	Not Used	←	Used	←	←	←
BATTERY PACK	BN-V11U-E	BN-V11U-F	BN-V20BU	←	←	BN-V11U-E
REMOTE CONTROL UNIT	Not Used	←	←	←	←	RM-V715U
CASSETTE ADAPTER	Optional	←	←	←	←	Provided

The following table indicate different parts number between models GR-SXM48EG-X, GR-SXM28EG-F, GR-SXM58EG-X, GR-SXM58EG-Y, GR-SXM58EG-Z and GR-SXM780A.

PACKING AND ACCESSORY ASSEMBLY <M1> Note: As for IB (INSTRUCTIONS), refer to sec.5.

⚠ REF. NO.	ITEM \ MODEL	GR-SXM48EG-X	GR-SXM28EG-F	GR-SXM58EG-X	GR-SXM58EG-Y	GR-SXM58EG-Z	GR-SXM780A
1	PACKING CASE	LY32545-002A	←	LY32545-001B	←	←	LY32563-003B
6	CONNECTOR	PEMC1174	←	←	←	←	—
7	GUARANTY CARD	—	BT-54008-2	—	—	—	—
8	WARRANTY CARD	BT-54013-2	—	BT-54013-2	←	←	—
⚠ 13	BATTERY PACK	YQ10269E	YQ10269F	LY31199-001A	←	←	YQ10269E
16	BATTERY	—	—	—	—	—	AA(R6)
19	REMOTE CONTROL UNIT	—	—	—	—	—	LY42129-001A
20	BATTERY,X2	—	—	—	—	—	AAA(R03)
21	CASSETTE ADAPTER	—	—	—	—	—	YQ31963B-3
22	POLY BAG	—	—	—	—	—	YQ43446
23	S-VIDEO CABLE	QAM0004-003	←	←	←	←	—
⚠ 24	SHEET(CON.PLUG)	—	—	—	—	—	LYT0609-001A
⚠ 25	CONVERSION PLUG	—	—	—	—	—	PEMC1012-02
32	PC CONNECTION CABLE	—	—	QAM0384-001	←	←	←
34	CD ROM ASSY	—	—	LY32210-020B	←	←	←
36	SHEET(ATT.)	—	—	LYT0974-001A	←	←	←
38	SHEET(AGREMENT)	—	—	LYT0934-001A	←	←	←

FINAL ASSEMBLY <M2>

⚠ REF. NO.	ITEM \ MODEL	GR-SXM48EG-X	GR-SXM28EG-F	GR-SXM58EG-X	GR-SXM58EG-Y	GR-SXM58EG-Z	GR-SXM780A
101	CASSETTE COVER(M)ASSY	LY20694-002B	*LY20694-011A	* ←	* ←	LY20694-009B	LY20694-002B
101E	STICKER(E)	—	LY43537-001A	—	—	LY43537-001A	—
103	UPPER CASE(M)	LY10257-044A	LY10257-043A	LY10257-045A	←	←	LY10257-049A
110	LOWER CASE ASSY	LY20684-023A	LY20684-022A	LY20684-023A	←	←	←
125	TOP OPERATION UNIT	LY20614-002C	LY20614-014C	LY20614-002C	←	←	←
127	STICKER(D)	—	—	—	—	—	LY32061-006A
130	REAR UNIT	LY20615-005F	*LY20615-005E	LY20615-007B	←	←	←
135	FRONT COVER ASSY	LY20683-033A	LY20683-030A	LY20683-029A	←	←	←
135F	DC LIGHT/COVER(LIGHT)	LY32040-001A	LY30934-022A	LY32040-001A	←	←	←
135G	STICKER(A)	LY32058-002A	LY32058-001A	LY32058-003A	←	←	←
135H	STICKER(C)	LY32060-004A	LY32060-005A	LY32060-004A	←	←	←
135J	SPACER(A)	LY30029-0B4A	—	LY30029-0B4A	←	←	←
⚠ 135K	CAUTION LABEL	YQ44341-6	—	YQ44341-6	←	←	←
139	SCREW	—	*QYSPSTU1725M	* ←	* ←	* ←	* ←
140	FRAME ASSY	LY20832-001B	LY20832-002B	LY20832-001B	←	←	←
140E	CONTACT(LIGHT),X2	YQ43810-1-1	—	YQ43810-1-1	←	←	←
140F	E-SI C WIRE C-F	WJM0259-001A	—	WJM0259-001A	←	←	←
142	SCREW	QYSPSPU1720Z(,x2)	*QYSPSPU1720Z(,x1)	* ←	* ←	* ←	* ←

MONITOR ASSEMBLY <M5>

⚠ REF. NO.	ITEM \ MODEL	GR-SXM48EG-X	GR-SXM28EG-F	GR-SXM58EG-X	GR-SXM58EG-Y	GR-SXM58EG-Z	GR-SXM780A
⚠ 500	MONITOR ASSY	LY20836-001A	←	←	←	←	LY20836-004A
502	MONITOR CASE ASSY	LY32036-002A	←	←	←	←	LY32035-001A
502E	SPACER(A)	LY30029-0T7A	←	←	←	←	—
504	SHIELD CASE	LY32330-001A	←	←	←	←	LY32332-001A
518	LCD MODULE	QLD0176-001	←	←	←	←	QLD0213-001
519	LIGHT SCREEN	LY43392-001A	←	←	←	←	LY43391-001A
520	LAMP	QLL0110-001	←	←	←	←	QLL0111-001
521	HOLDER,X2	LY43393-001A	←	←	←	←	LY43394-001A
522	SHEET	LY43396-001A	←	←	←	←	LY43395-001A
523	DIFFUSION SHEET	LY43362-001A	←	←	←	←	LY43363-001A
527	SPACER(A)	—	—	—	—	—	LY30029-0R6A
528	LCD FRAME(3)	—	—	—	—	—	LY32333-001A
529	SPACER(A),X2	—	—	—	—	—	LY30029-0R5A

Notes : Mark ← is same as left.
Mark — is not used.
Mark : * reference model was also changed.

MAIN BOARD ASSEMBLY <01>

⚠ REF. NO.	ITEM / MODEL	GR-SXM48EG-X	GR-SXM28EG-F	GR-SXM58EG-X	GR-SXM58EG-Y	GR-SXM58EG-Z	GR-SXM780A
PW1	MAIN BOARD ASSY	YB10356EB1-01	YB10356EH1-01	YB10356EC1-01	←	←	YB10356EJ1-01
IC101	IC(MICRO C ROM)	UPD703039-038	←	UPD703039-039	←	←	←
IC105	IC(DIGITAL)	—	—	TC7S66FU	←	←	←
IC1801	IR DETECT UNIT	—	—	—	—	—	PIC-26043S
IC4002	IC	Z4C2973-32-X	—	Z4C2973-32-X	←	←	←
IC8001	IC	—	—	MAX3221CAE	←	←	←
Q6306	MOS FET	SSM3K02F	—	SSM3K02F	←	←	←
Q6621	PAIR TRANSISTOR	—	—	—	—	—	HN1C01FU/G/-X
Q6622	TRANSISTOR	—	—	—	—	—	2SA1577/QR/-X
D8001	ZENER DIODE	—	—	EMZ6.8N	←	←	←
R182	MG RESISTOR	—	—	NRSA63J-105X	←	←	←
R4013	MG RESISTOR	NRSA63J-102X	—	NRSA63J-102X	←	←	←
R6306	MG RESISTOR	NRS12BK-R47W	—	NRS12BK-R47W	←	←	←
R6307	MG RESISTOR	NRSA63J-104X	—	NRSA63J-0R0X	←	←	←
R6622	CMF RESISTOR	—	—	—	—	—	NRVA63D-104X
R6623	CMF RESISTOR	—	—	—	—	—	NRVA63D-473X
R6624	MG RESISTOR	—	—	—	—	—	NRSA63J-273X
R6625	MG RESISTOR	—	—	—	—	—	NRSA63J-822X
R6626	CMF RESISTOR	—	—	—	—	—	NRVA63D-273X
R6627	CMF RESISTOR	—	—	—	—	—	NRVA63D-183X
R8001	MG RESISTOR	—	—	NRSA63J-331X	←	←	←
R8002	MG RESISTOR	—	—	NRSA63J-0R0X	←	←	←
R8003	MG RESISTOR	—	—	NRSA63J-0R0X	←	←	←
C4024	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←	←	←
C4044	CAPACITOR	NCB30JK-105X	—	NCB30JK-105X	←	←	←
C6307	E CAPACITOR	NEA71CM-106X	—	NEA71CM-106X	←	←	←
C6622	CAPACITOR	—	—	—	—	—	NCB21CK-105X
C8001	CAPACITOR	—	—	NCF31EZ-104X	←	←	←
C8002	CAPACITOR	—	—	NCF31EZ-104X	←	←	←
C8003	CAPACITOR	—	—	NCF31EZ-104X	←	←	←
C8004	CAPACITOR	—	—	NCF31EZ-104X	←	←	←
C8005	T CAPACITOR	—	—	NBE20JM-106X	←	←	←
C8006	CAPACITOR	—	—	NCF31EZ-104X	←	←	←
L501	MG RESISTOR	—	—	NRSA63J-0R0X	←	←	←
L8001	COIL	—	—	NQL365K-220X	←	←	←
CN6	CONNECTOR	QGA1201C2-02X	—	QGA1201C2-02X	←	←	←

MONITOR BOARD ASSEMBLY <07>

⚠ REF. NO.	ITEM / MODEL	GR-SXM48EG-X	GR-SXM28EG-F	GR-SXM58EG-X	GR-SXM58EG-Y	GR-SXM58EG-Z	GR-SXM780A
PW	MONITOR BOARD ASSY	YB20913A	←	←	←	←	YB20913B
IC7603	IC	SN74AHC1G04K	←	←	←	←	—
Q7607	TRANSISTOR	DTC144EE	←	←	←	←	—
R7602	MG RESISTOR	NRSA63D-752X	←	←	←	←	NRSA63D-432X
R7607	MG RESISTOR	NRSA63D-822X	←	←	←	←	NRSA63D-153X
R7637	MG RESISTOR	NRSA63J-223X	←	←	←	←	NRSA63J-682X
R7640	MG RESISTOR	NRSA02J-182X	←	←	←	←	NRSA02J-122X
R7641	MG RESISTOR	NRSA02J-331X	←	←	←	←	NRSA02J-821X
R7642	MG RESISTOR	—	—	—	—	—	NRSA63J-0R0X
R7643	MG RESISTOR	—	—	—	—	—	NRSA63J-123X
R7644	MG RESISTOR	—	—	—	—	—	NRSA63J-123X
R7645	MG RESISTOR	NRSA63J-682X	←	←	←	←	NRSA63J-123X
R7646	MG RESISTOR	NRSA63J-392X	←	←	←	←	NRSA63J-222X
R7647	MG RESISTOR	—	—	—	—	—	NRSA63J-0R0X
R7648	MG RESISTOR	NRSA63J-103X	←	←	←	←	—
R7649	MG RESISTOR	—	—	—	—	—	NRSA63J-333X
R7650	MG RESISTOR	NRSA63J-103X	←	←	←	←	—
C7623	CAPACITOR	NCB31EK-682X	←	←	←	←	—
C7627	CAPACITOR	NCB31EK-103X	←	←	←	←	—
C7630	CAPACITOR	—	—	—	—	—	NCB31EK-103X
L7603	COIL	—	—	—	—	—	NQL38DK-220X
L7604	COIL	NQL38DK-220X	←	←	←	←	—

Notes : Mark ← is same as left.
Mark — is not used.

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VIDEO DIVISION

S40894

Printed in Japan

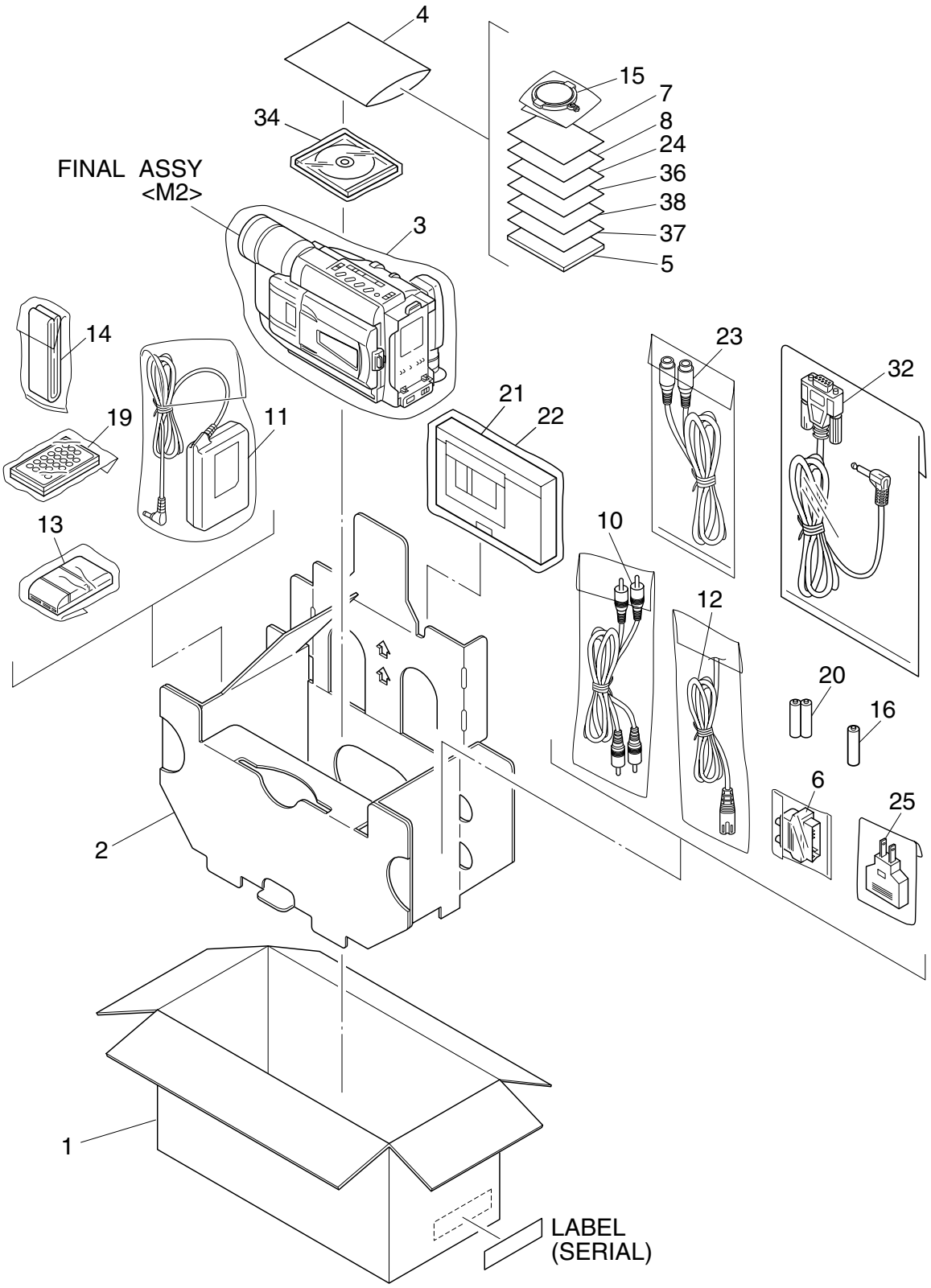
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

PACKING AND ACCESSORY ASSEMBLY <M1>

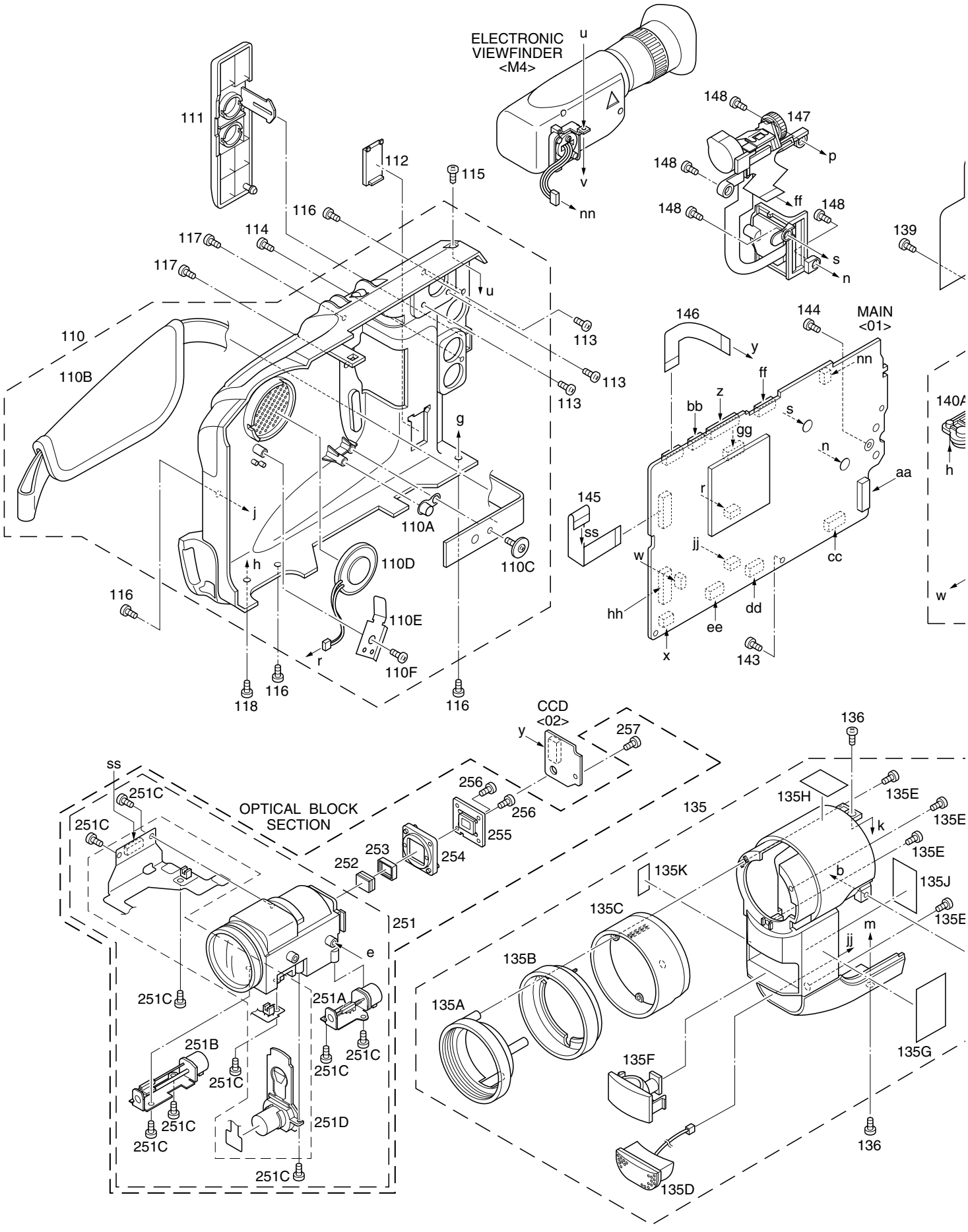
		1	LY32345-001B	PACKING CASE,C,D,E
			LY32545-002A	PACKING CASE,B
			LY32545-003A	PACKING CASE,A
			LY32563-003B	PACKING CASE,F
		2	LY32553-001A	CUSHION
		3	LY30023-002A	POLY BAG
		4	QPA02003506	POLY BAG
	⚠	5	LYT0860-002A	INST.BOOK(GE),D
	⚠		LYT0860-002B	INST.BOOK(GE),A,C
	⚠		LYT0860-003B	INST.BOOK(FR),A,C
	⚠		LYT0860-004B	INST.BOOK(DU),A,C
	⚠		LYT0860-005B	INST.BOOK(SP),A,C
	⚠		LYT0860-006B	INST.BOOK(IT),A,C
	⚠		LYT0860-007A	INST.BOOK(DA),D
	⚠		LYT0860-008A	INST.BOOK(FI),D
	⚠		LYT0860-009A	INST.BOOK(SW),D
	⚠		LYT0860-010A	INST.BOOK(NO),D
	⚠		LYT0860-011A	INST.BOOK(RU),E
	⚠		LYT0860-012A	INST.BOOK(CZ),E
	⚠		LYT0860-013A	INST.BOOK(PO),E
	⚠		LYT0860-014A	INST.BOOK(HU),E
	⚠		LYT0863-001B	INST.BOOK(FR),B
	⚠		LYT0868-001B	INST.BOOK(EN),F
	⚠		LYT0868-002B	INST.BOOK(CH),F
	⚠		LYT0868-003B	INST.BOOK(RU),F
	⚠		LYT0868-004B	INST.BOOK(AR),F
		6	PEMC1174	CONNECTOR,CABLE ADAPTER,A,B,C,D,E
		7	BT-54008-2	GUARANTY CARD,B
		8	BT-54013-2	WARRANTY CARD,A,C,D,E
		10	PEAC0362-150	CABLE ASSY,AUDIO/VIDEO CABLE
	⚠	11	LY20847-001B	AC ADAPTER,AP-V12EG
	⚠	12	QMPL120-190-JR	POWER CORD
	⚠	13	LY31199-001A	BATTERY PACK,BN-V20BU,C,D,E
	⚠		YQ10629E	BATTERY PACK,BN-V11U-E,A,F
	⚠		YQ10629F	BATTERY PACK,BN-V11U-F,B
		14	LY20186-001A	SHOULDER STRAP
		15	LY43388-001A	LENS CAP
		16	–	BATTERY,AA(R6),F
		19	LY42129-001A	REMOTE CONTROL UNIT,RM-V715U,F
		20	–	BATTERY,AAA(R03),X2,F
		21	YQ31963B-3	CASSETTE ADAPTER,C-P7U,F
		22	YQ43446	POLY BAG,F
		23	QAM0004-003	S-VIDEO CABLE,B,C,D,E
	⚠	24	LYT0609-001A	SHEET(CON.PLUG),F
	⚠	25	PEMC1012-02	CONVERSION PLUG,F
		32	QAM0384-001	PC CONNECTION CABLE,C,D,E,F
		34	LY32210-020B	CD ROM ASSY,C,D,E,F
		36	LYT0974-001A	SHEET(ATT.),C,D,E,F
	⚠	37	LYT0862-001A	INST.BOOK(SOFT.EN),F
	⚠		LYT0862-002A	INST.BOOK(SOFT.IT),C
	⚠		LYT0862-003A	INST.BOOK(SOFT.FR),C
	⚠		LYT0862-004A	INST.BOOK(SOFT.IT),C
	⚠		LYT0862-005A	INST.BOOK(SOFT.IT),C
	⚠		LYT0862-006A	INST.BOOK(SOFT.IT),C
	⚠		LYT0862-007A	INST.BOOK(SOFT.DA),D
	⚠		LYT0862-008A	INST.BOOK(SOFT.FI),D
	⚠		LYT0862-009A	INST.BOOK(SOFT.SW),D
	⚠		LYT0862-010A	INST.BOOK(SOFT.NO),D
	⚠		LYT0862-011A	INST.BOOK(SOFT.CH),F
	⚠		LYT0862-012A	INST.BOOK(SOFT.CH),E,F
		38	LYT0934-001A	SHEET(AGREMENT),C,D,E,F

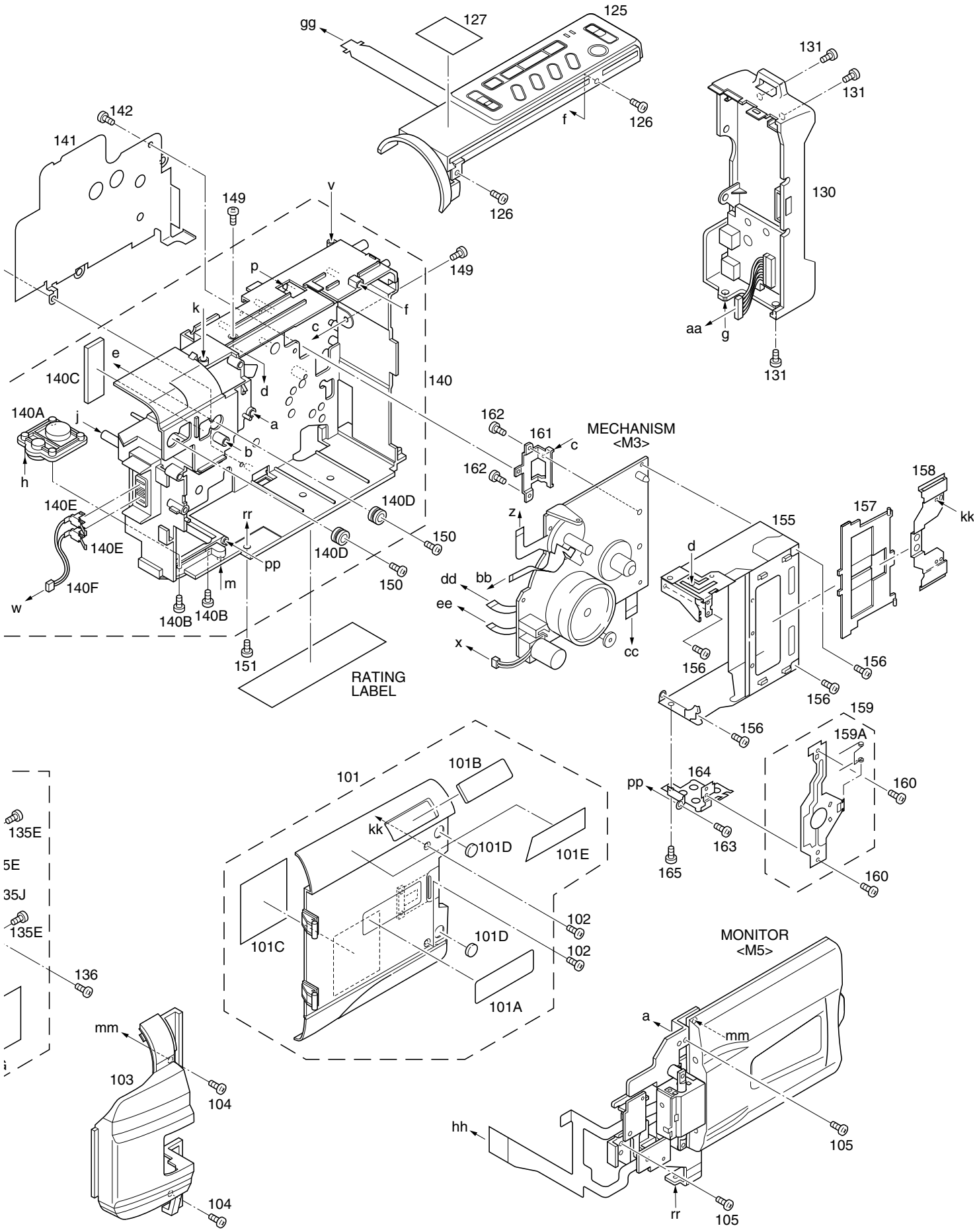
MODEL	MARK
GR-FXM383EG-X	A
GR-SXM28EG-F	B
GR-SXM58EG-X	C
GR-SXM58EG-Y	D
GR-SXM58EG-Z	E
GR-SXM780A	F

• INSTRUCTIONS

GE ..... GERMAN
FR ..... FRENCH
DU ..... DUTCH
SP ..... SPANISH
IT ..... ITALIAN
DA ..... DANISH
FI ..... FINNISH
SW ..... SWEDISH
NO ..... NORWEGIAN
RU ..... RUSSIAN
CZ ..... CZECH
PO ..... POLISH
HU ..... HUNGARIAN
EN ..... ENGLISH
CH ..... CHINESE
AR ..... ARABIC

5.2 FINAL ASSEMBLY <M2>

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# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
**********		

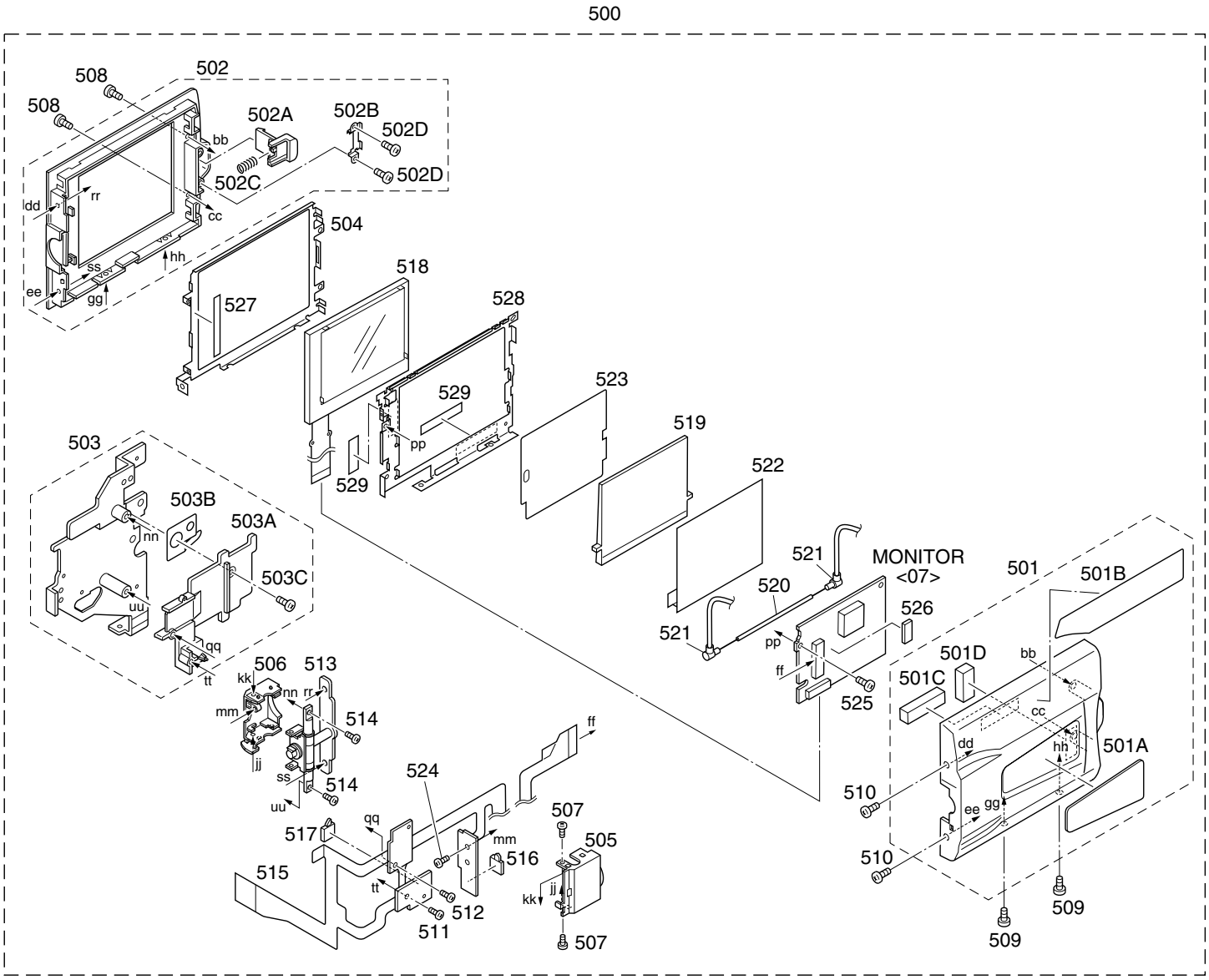
FINAL ASSEMBLY <M2>

101	LY20694-002B	CASSETTE COVER(M)ASSY,F
	LY20694-009B	CASSETTE COVER(M)ASSY,E
	LY20694-010A	CASSETTE COVER(M)ASSY,A
	LY20694-011A	CASSETTE COVER(M)ASSY,B,C,D
101A	LY40075-004A	LABEL/CAUTION
101B	LY42883-001A	MARK
101C	LY40559-001A	SHIELD SHEET
101D	LY40076-001A	SPACER,X2
101E	LY43537-001A	STICKER(E),B,E
102	QYSLSP2030D	SCREW,X2
103	LY10257-042A	UPPER CASE(M),A
	LY10257-043A	UPPER CASE(M),B
	LY10257-045A	UPPER CASE(M),C,D,E
	LY10257-049A	UPPER CASE(M),F
104	QYSLSP2030D	SCREW,X2
105	QYSLSF2060D	SCREW,X2
110	LY20684-005A	LOWER CASE ASSY,A
	LY20684-022A	LOWER CASE ASSY,B
	LY20684-023A	LOWER CASE ASSY,C,D,E,F
110A	LY40081-001A	CAP
110B	LY20682-001A	GRIP BELT
110C	LY30018-003A	SPECIAL SCREW
110D	QAS0061-001	SPEAKER
110E	LY42764-001B	HOLDER(SPEAKER)
110F	QYSLSF2050Z	SCREW
111	LY31945-003A	COVER(JACK)
112	LY31946-001A	COVER(JIG)
113	QYSLSF2050Z	SCREW,X3
114	QYSLSF2060D	SCREW
115	QYSLSF2060D	SCREW
116	QYSLSF2060D	SCREW,X4
117	QYSLSF2060D	SCREW,X2
118	QYSLSF2060D	SCREW
125	LY20614-002C	TOP OPERATION UNIT,C,D,E,F
	LY20614-010C	TOP OPERATION UNIT,A
	LY20614-014C	TOP OPERATION UNIT,B
126	QYSLSF2060D	SCREW,X2
127	LY32061-006A	STICKER(D),F
130	LY20615-005E	REAR UNIT,A,B
	LY20615-007B	REAR UNIT,C,D,E,F
131	QYSLSF2060D	SCREW,X3
135	LY20683-029A	FRONT COVER ASSY,C,D,E,F
	LY20683-030A	FRONT COVER ASSY,B
	LY20683-031A	FRONT COVER ASSY,A
135A	LY31937-001A	HOOD
135B	LY31938-001A	COVER(HOOD)
135C	LY31936-001A	RING
135D	LY32482-001A	MICROPHONE
135E	QYSLSF2060D	SCREW,X4
135F	LY30934-022A	COVER(LIGHT),B
	LY32040-001A	DC LIGHT,A,C,D,E,F
135G	LY32058-001A	STICKER(A),B
	LY32058-002A	STICKER(A),A
	LY32058-003A	STICKER(A),C,D,E,F
135H	LY32060-004A	STICKER(C),C,D,E,F
	LY32060-005A	STICKER(C),A,B
135J	LY30029-0B4A	SPACER(A),A,C,D,E,F
⚠ 135K	YQ44341-6	CAUTION LABEL,A,C,D,E,F
136	QYSLSF2060D	SCREW,X3
139	QYSPSTU1725M	SCREW
140	LY20832-001B	FRAME ASSY,A,C,D,E,F
	LY20832-002B	FRAME ASSY,B
140A	YQ31843	BASE
140B	QYSLSF2060D	SCREW,X2
140C	LY30029-0A4A	SPACER(A)
140D	LY41082-001A	CUSHION(OP),X2
140E	YQ43810-1-1	CONTACT(LIGHT),X2,A,C,D,E,F
140F	WJM0259-001A	E-SI C WIRE C-F,FRAME-MAIN CN6,A,C,D,E,F
141	LY32327-001A	SHIELD CASE(MAIN)
142	QYSPSPU1720Z	SCREW
143	QYSLSF2060D	SCREW
144	QYSLSF2060D	SCREW
145	WJT0072-001A	E-CARD WIRE,OP-MAIN CN15
146	QAL0389-001	FPC,MAIN CN22-CCD CN5301
147	LY20613-001B	ZOOM UNIT
148	QYSLSF2060D	SCREW,X4
149	LY41173-001A	SPECIAL SCREW,X2
150	LY30018-050A	SPECIAL SCREW,X2
151	QYSLSP2030D	SCREW
155	LY31808-001C	CASSETTE HOUSING FINAL ASSY
156	LY42722-003A	SCREW,X4
157	LY30176-001A	CASSETTE COVER INSIDE
158	LY31956-001A	BRACKET(CASSETTE COVER)
159	LY31790-001A	FRONT FRAME ASSY
159A	YQ44144-1-1	TAPE GUIDE
160	SPSH1725M	SCREW,X2
161	LY32326-001A	BRACKET(MECHA)
162	LY42722-003A	SCREW,X2
163	QYSLSF1750D	SCREW
164	LY31807-001A	SIDE BRACKET L
165	LY42722-003A	SCREW

– OPTICAL BLOCK SECTION –

251	LY30948-003A	OP BLOCK ASSY
251A	PTY30948-002	FOCUS MOTOR
251B	PTY30948-301	ZOOM MOTOR
251C	PTY30151-016	TAPPING SCREW,X9
251D	PTY30948-006	IRIS MOTOR UNIT
252	LY43383-001A	OPTICAL LPF
253	LY31370-001A	SPACER RUBBER
254	LY20497-001A	CCD SPACER
255	LYH30374-001A	CCD BASE ASSY
256	QYSPSGU2080Z	SCREW,X2
257	LY30018-072A	SPECIAL SCREW

5.3 MONITOR ASSEMBLY <M5> [GR-SXM780A]



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

MONITOR ASSEMBLY <M5>

⚠	500	LY20836-004A	MONITOR ASSY
⚠	501	LY20834-001A	MONITOR COVER ASSY
	501A	LY32329-002A	PLATE(WINDOW)
	501B	LY32554-001A	STICKER(B)
	501C	LY30029-0R3A	SPACER(A)
	501D	LY30029-0R4A	SPACER(A)
	502	LY32035-001A	MONITOR CASE(3)ASSY
	502A	LY31954-001A	KNOB(LOCK)
	502B	LY42760-001A	BRACKET(LOCK)
	502C	LY30002-043A	COMPRESION SPRING
	502D	LY30018-063A	SPECIAL SCREW,X2
	503	LY32034-003A	BRACKET(UPPER)ASSY
	503A	LY20652-003A	HOLDER
	503B	LY42761-001A	EARTH PLATE
	503C	QYSLSP2025D	SCREW
	504	LY32332-001A	SHIELD CASE(3)
	505	LY31939-001A	HINGE COVER(UPPER)
	506	LY31940-001A	HINGE COVER(LOWER)

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		507	LY30018-0C9A	SPECIAL SCREW,X2
		508	LY30018-052A	SPECIAL SCREW,X2
		509	LY30018-0C9A	SPECIAL SCREW,X2
		510	LY30018-0C5A	SPECIAL SCREW,X2
		511	QYSLSF2040D	SCREW
		512	QYSLSP2070D	SCREW
		513	LY31957-001A	HINGE ASSY
		514	LY30018-090A	SPECIAL SCREW,X2
		515	QAL0391-001	FPC
		516	NSW0095-001X	DETECT SWITCH,REVERSE
		517	NSW0105-001X	DETECT SWITCH,OPEN
		518	QLD0213-001	LCD MODULE
		519	LY43391-001A	LIGHT SCREEN
		520	QLL0111-001	LAMP
		521	LY43394-001A	HOLDER,X2
		522	LY43395-001A	SHEET
		523	LY43363-001A	DIFFUSION SHEET(3)
		524	LY30018-063A	SPECIAL SCREW
		525	LY30018-0C9A	SPECIAL SCREW
		526	LY30016-049A	SPACER-A
		527	LY30029-0R6A	SPACER(A)
		528	LY32333-001A	LCD FRAME(3)
		529	LY30029-0R5A	SPACER(A),X2

JVC

GR-FXM38EG/EK,SXM48EG/EK/EA,SXM67ED,SXM87ED

No. 86655

JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

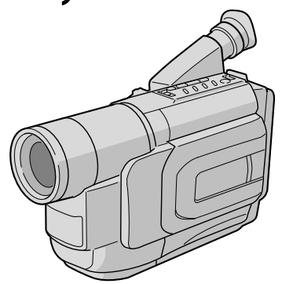
S40894

JVC

SERVICE MANUAL

COMPACT VHS CAMCORDER

GR-FXM38EG/EK,SXM48EG/EK/EA
SXM67ED,SXM87ED



S-VHS C VHS PAL 625
Super VHS
Super VHS ET

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-SXM58EK/SXM48EK/FXM38EK/SX24EK/FX14EK)*

Camcorder

General

Format	: S-VHS (GR-SXM58/SXM48/SX24 only)/VHS PAL standard
Power source	: DC 11 V ⎓ (Using AC Adapter) DC 6 V ⎓ (Using battery pack)
Power consumption	
Viewfinder on	: 4.0 W (GR-SXM58/SXM48/FXM38 only) 3.7 W (GR-SX24/FX14 only)
LCD monitor* on	: 4.5 W (GR-SXM58/SXM48/FXM38 only)
Video light**	: 3.0 W
* Applicable models only.	
** GR-SXM58/SXM48/SX24 only.	
Signal system	: PAL-type
Video recording system	
Luminance	: FM recording
Colour	: Converted sub-carrier direct recording Conforms to VHS standard
Cassette	: S-VHS C / VHS C cassette
Tape speed	
SP	: 23.39 mm/sec.
LP	: 11.70 mm/sec.
Recording time (max.)	
SP	: 60 minutes
LP	: 120 minutes (with EC-60 cassette)
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C
Weight	: Approx. 910 g (GR-SXM58/SXM48 only) Approx. 900 g (GR-FXM38 only) Approx. 860 g (GR-SX24 only) Approx. 850 g (GR-FX14 only)
Dimensions	: 200 mm x 112 mm x 118 mm (GR-SXM58/SXM48/FXM38 only) 200 mm x 112 mm x 115 mm (GR-SX24/FX14 only) (with the LCD monitor* closed and with the viewfinder fully tilted downward)
* Applicable models only.	
Pickup	: 1/6" format CCD
Lens	: F1.6, f = 3.9 mm to 62.4 mm, 16:1 power zoom lens with auto iris and macro control, filter diameter 40.5 mm
Viewfinder	: Electronic viewfinder with 0.5" black/white CRT
White balance adjustment	: Auto/Manual adjustment
LCD monitor (Applicable models only)	: 2.5" diagonally measured, LCD panel/TFT active matrix system
Speaker (Applicable models only)	: Monaural

Connectors

Video (via Video output connector)	: 1 V (p-p), 75 W unbalanced, analogue output
Audio (via Audio output connector)	: 300 mV (rms), 1 kW analogue output
Digital (GR-SXM58 only)	: ø3.5 mm, 4-pole, mini-head jack
S-Video (GR-SXM58/SXM48/SX24 only)	: **Y** : 1 V (p-p), 75 Ω, analogue output **C** : 0.30 V (p-p), 75 Ω, analogue output

AC Adapter

Power requirement	: AC 110 V — 240 V ∿, 50 Hz/60 Hz
Output	: DC 11 V ⎓, 1 A

Optional Accessories

- **Battery Packs BN-V12U, BN-V20U, BN-V400U**
- **Compact S-VHS (S-VHS C) Cassettes SE-C45/30**
- **Compact VHS (VHS C) Cassettes EC-60/45/30**
- **Active Carrying Bag CB-V7U**
- **Cassette Adapter C-P7U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

Printed in Japan

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No. 86655
November 2001

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The following table lists the differing points between Models GR-FXM38EG, GR-FXM38EK, GR-SXM48EG, GR-SXM48EK, GR-SXM48EA, GR-SXM67ED and GR-SXM87ED in this serise.

	GR-FXM38EG	GR-FXM38EK	GR-SXM48EG	GR-SXM48EK	GR-SXM48EA	GR-SXM67ED	GR-SXM87ED
TAPE FORMAT	VHS-C	VHS-C	S-VHS-C	S-VHS-C	S-VHS-C	S-VHS-C	S-VHS-C
S-VHS ET	NOT USED	NOT USED	USED	USED	USED	USED	USED
VIDEO LIGHT	NOT USED	NOT USED	USED	USED	USED	NOT USED	USED
IR RECIVER	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	USED
SNAP SHOT	NOT USED	NOT USED	USED	USED	USED	NOT USED	USED
NIGHT ALIVE(SCOPE)	NOT USED	NOT USED	USED	USED	USED	NOT USED	USED
5 SEC REC	USED	USED	NOT USED	NOT USED	NOT USED	USED	NOT USED
S OUTPUT	NOT USED	NOT USED	USED	USED	USED	USED	USED
EDIT CTL OUTPUT	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	USED
AC ADAPTER	AP-V12EG	AP-V12EG	AP-V12EG	AP-V12EG	AP-V12EG	AP-V12ED	AP-V12ED
BATTERY PACK	BN-V11U-E	BN-V11U-E	BN-V11U-E	BN-V11U-E	BN-V20BU	BN-V20BU	BN-V20BU
REMOTE CONTROL UNIT	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	PROVIDE
S VIDEO CABLE	NOT USED	NOT USED	PROVIDE	PROVIDE	OPTIONAL	OPTIONAL	OPTIONAL
CASSETTE ADAPTER	NOT USED	NOT USED	OPTIONAL	OPTIONAL	PROVIDE	PROVIDE	PROVIDE
CABLE ADAPTER	USED(W/S TERMINAL)	USED(W/S TERMINAL)	USED(W/S TERMINAL)	USED(W/S TERMINAL)	NOT USED	NOT USED	NOT USED

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

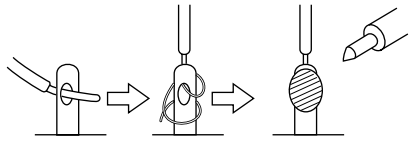


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

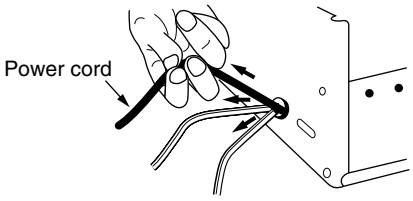


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission.
    Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.
    Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) Connector part number : E03830-001
    2) Required tool : Connector crimping tool of the proper type which will not damage insulated parts.
    3) Replacement procedure
    (1) Remove the old connector by cutting the wires at a point close to the connector.
    Important : Do not reuse a connector (discard it).

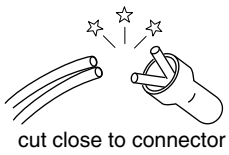


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

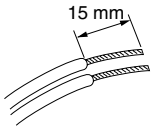


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

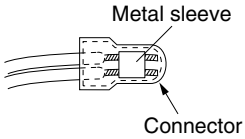


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

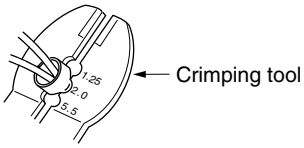


Fig.6

(5) Check the four points noted in Fig.7.

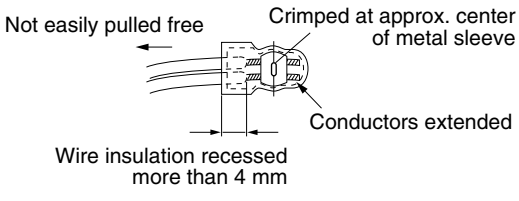

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

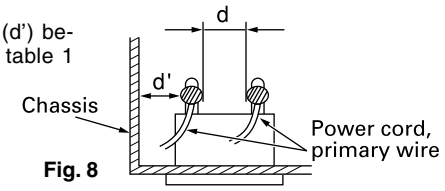


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

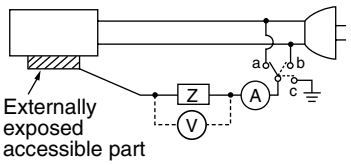


Fig. 9

5. Grounding (Class 1 model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

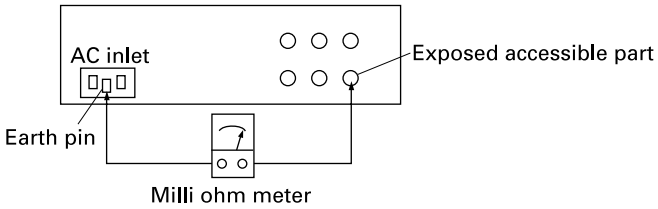


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistor, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.
6. Tighten screws properly during the procedures. Unless specified otherwise, tighten screws at torque of 0.196 N•m (2.0 kgf•cm).

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP No.	PART	Fig. No.	REMOVAL *UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER
①	CASETTE COVER ASSEMBLY	C1	2(S①)
②	UPPER CASE	C2	2(S②), 2(L②)
③	LOWER CASE ASSEMBLY (Incl. E.VF ASSEMBLY)	C3	9(S③), (L③a), (L③b) *CN③a,CN③b,COVER(JACK)

(1) (2) (3) (4)

(1) Order of steps in Procedure
When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(2) Part to be removed or installed.

(3) Fig. No. showing Procedure or Part Location.
C = Cabinet
CA = Camera
D = Deck

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S③) = 2 Screws (S③)
CN = Connector

(5) Adjustment information for installation.

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

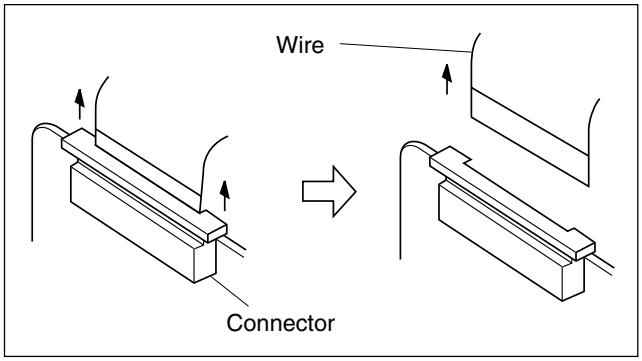
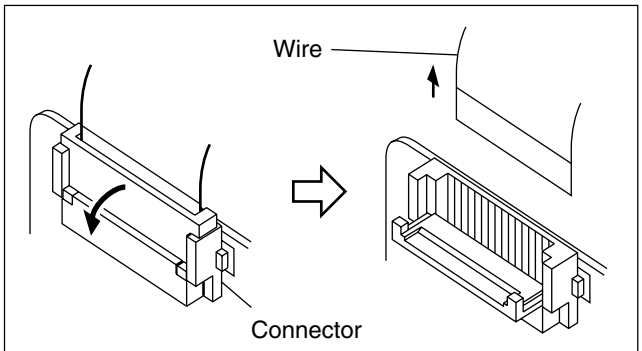


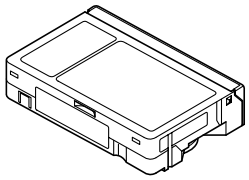
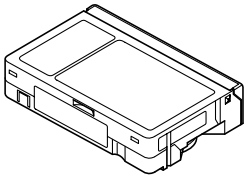
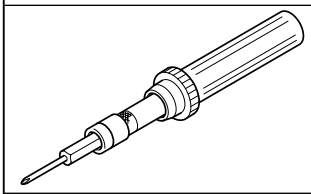
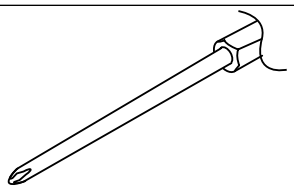
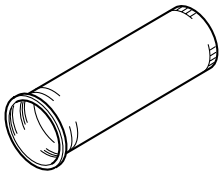
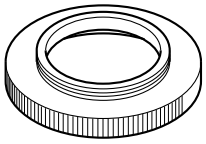
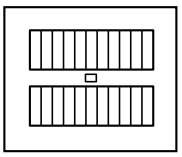
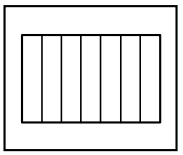
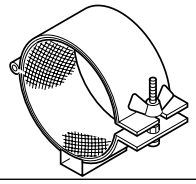
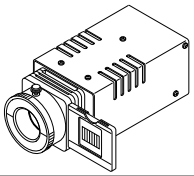
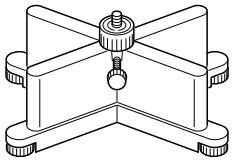
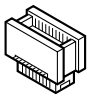
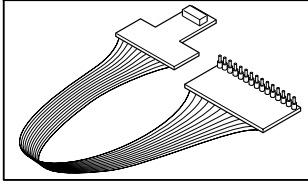
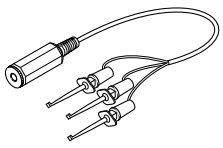
Fig. 1-1-1



NOTE: *After removing the wire, return the stopper to its original position, because it is apt to come off if it is left open.*

Fig. 1-1-2

1.2 TOOLS REQUIRED FOR ADJUSTMENTS

1 Alignment tape (for SP interchangeability) MHPE-C	2 Alignment tape (for N. SP PB Y/C level) MHVE-2C
	
3 Torque driver YTU94088	4 Bit YTU94088-003
	
5 INF adjustment lens YTU92001B	6 Conn. ring YTU92001-111
	
7 Gray Scale Chart YTU94133A	8 Color Bar Chart YTU94133C
	
9 INF lens holder YTU94087	10 Light box Assembly YTU93096A
	
11 Camera stand YTU93079	12 Extension connector YTU94145B-30
	
13 Jig connector cable YTU93106A	14 Communication cable YTU93107A
	

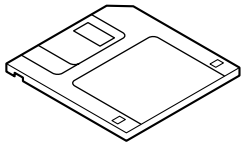
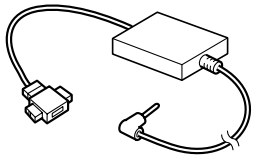
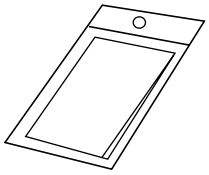
15 Service support system YTU94057-56	16 PC cable QAM0099-002
	
17 Cleaning cloth KSMM-01	
	

Table 1-2-1

1,2. Alignment tape
To be used for check and adjustment of interchangeability of the mechanism.
(Video: Color bar signal, Audio: Non-signal)

3. Torque driver
Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

4. Bit
This bit is slightly longer than those set in conventional torque drivers.

5. INF adjustment lens
To be used for adjustment of the camera system.

6. Conn. ring
The connector ring to attach the INF. lens to the head of the OP lens.

7. Gray scale chart
To be used for adjustment of the camera system.

8. Color bar chart
To be used for adjustment of the camera system.

9. INF lens holder
To be used together with the camera stand (11) for operating the VideoMovie in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring.

10. Light box assembly
To be used for adjustment of the camera system.

11. Camera stand
To be used together with the INF adjustment lens holder.

12. Extention connector
To be used to JIG connector cable

13. JIG connector cable
Connected to CN25 of the main board and used for measuring error rates, etc.

14. Communication Cable
Connect the Communication cable between the PC cable and Jig connector cable when performing a PC adjustment.

15. Service support system
To be used for adjustment with a personal computer.

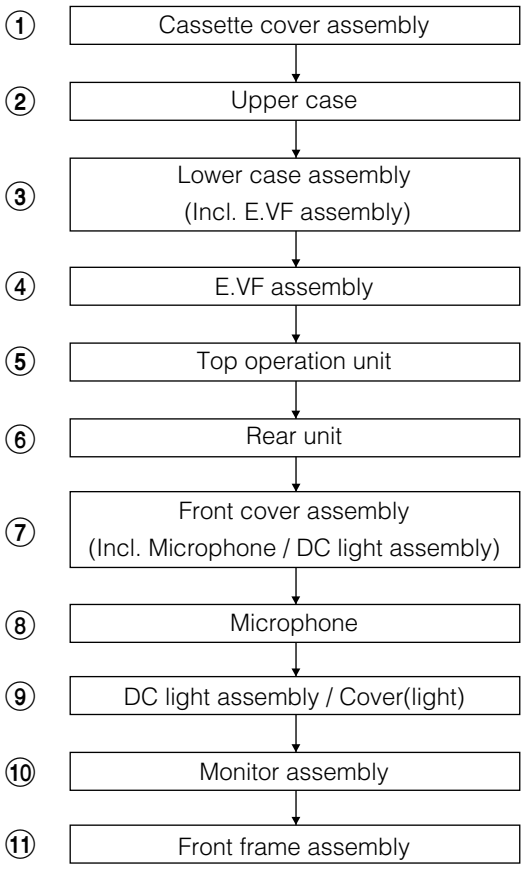
16. PC cable
To be used to connect the VideoMovie and a personal computer with each other when a personal computer isused for adjustment.

17. Cleaning cloth
Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① Cassette cover assembly
② Upper case
③ Lower case assembly (Incl. E.VF assembly)
④ E.VF assembly
⑤ Top operation unit
⑥ Rear unit
⑦ Front cover assembly (Incl. Microphone / DC light assembly)
⑧ Microphone
⑨ DC light assembly / Cover(light)
⑩ Monitor assembly
⑪ Front frame assembly

NOTE : *For screw management, refer to the table appearing in the section "1.9 SERVICE NOTE" (page 1-16).*

1.3.2 Disassembly method

STEP /LOC No.	PART	Fig. No.	REMOVAL *UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER
①	CASETTE COVER ASSEMBLY	C1	2(S①)
②	UPPER CASE	C2	2(S②), 2(L②)
③	LOWER CASE ASSEMBLY (Incl. E.VF ASSEMBLY)	C3	9(S③), (L③a), (L③b) *CN③a,CN③b,COVER(JACK)
④	E.VF ASSEMBLY	C4	3(S④)
⑤	TOP OPERATION UNIT	C5	2(S⑤),(L⑤a),(L⑤b),2(L⑤c), *CN⑤a
⑥	REAR UNIT	C6	3(S⑥),(L⑥a),(L⑥b),*CN⑥a
⑦	FRONT COVER ASSEMBLY (Incl. MICROPHONE / DC LIGHT ASSEMBLY)	C7	2(S⑦a),(S⑦b),(L⑦a),(L⑦b), *CN⑦a
⑧	MICROPHONE		(S⑦a)
⑨	DC LIGHT ASSEMBLY COVER (LIGHT)		2(L⑦c)
⑩	MONITOR ASSEMBLY	C8	2(S⑧a),(S⑧b),*CN⑧a
		C9	2(S⑨a),(S⑨b),(S⑨c)
		C10	2(S⑩a),2(S⑩b),2(S⑩c),(L⑩a),(L⑩b), (L⑩c)
		C11	(S⑪),(L⑪a),*CN⑪a,CN⑪b
		C12	2(S⑫a),(S⑫b),2(L⑫a)
⑪	FRONT FRAME ASSEMBLY	C13	2(S⑬)

List of Abbreviations:
2(S①)=2 screws (S①)
4(L①a)=4 Locking Tabs
CN=Connector

Reference Notes:
<NOTE 1>
Destination of connectors

Note : *Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.*
⇔ : Flat wire
↔ : Wire

Con-nector	No.of Pins	Connector		
CN③a	2	SPEAKER	↔	MAIN CN27
CN③b	3	E.VF (B/W)	↔	MAIN CN12
CN⑤a	12	TOP OPERATION UNIT	⇔	MAIN CN18
CN⑥a	13	REAR UNIT	⇔	MAIN CN28
CN⑦a	2	MIC	↔	MAIN CN8
CN⑧a	25	MONITOR ASSEMBLY	⇔	MAIN CN16
CN⑪a	28	MONITOR CN7601	⇔	T. HINGE
CN⑪b	24	MONITOR CN7602	⇔	LCD MODULE

<NOTE 2, 3>
(1) The FPC assembly should be winded around the hinge assembly by two and half turns so that the wire to be connected to the monitor board assembly is positioned inside.
(2) The upper and lower hinge covers should be mounted so carefully the any wire is not caught into either of the covers.

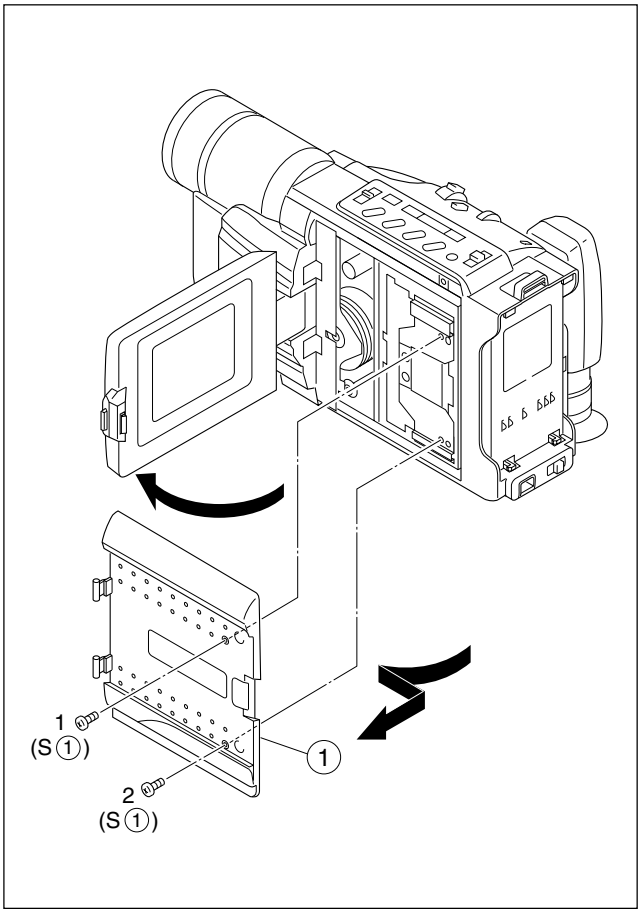


Fig. C1

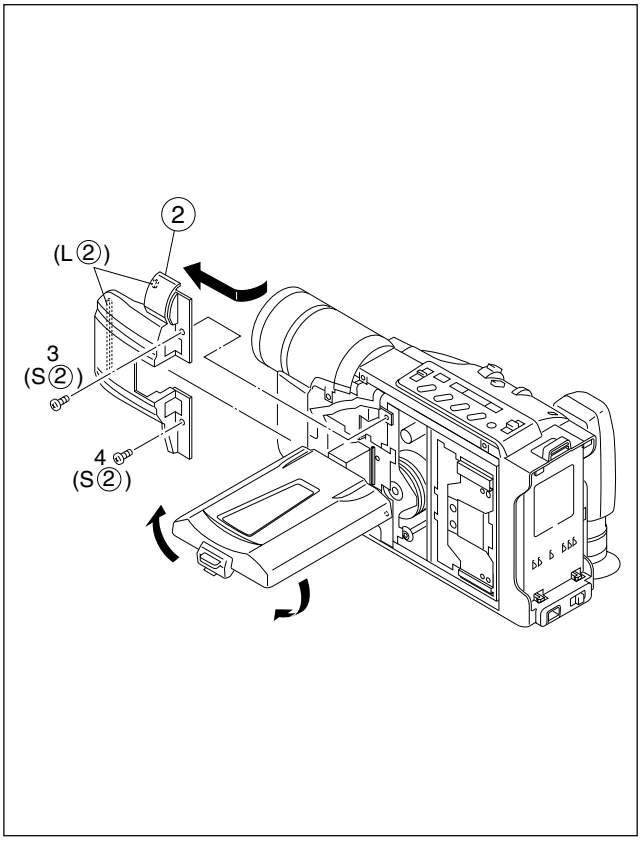


Fig. C2

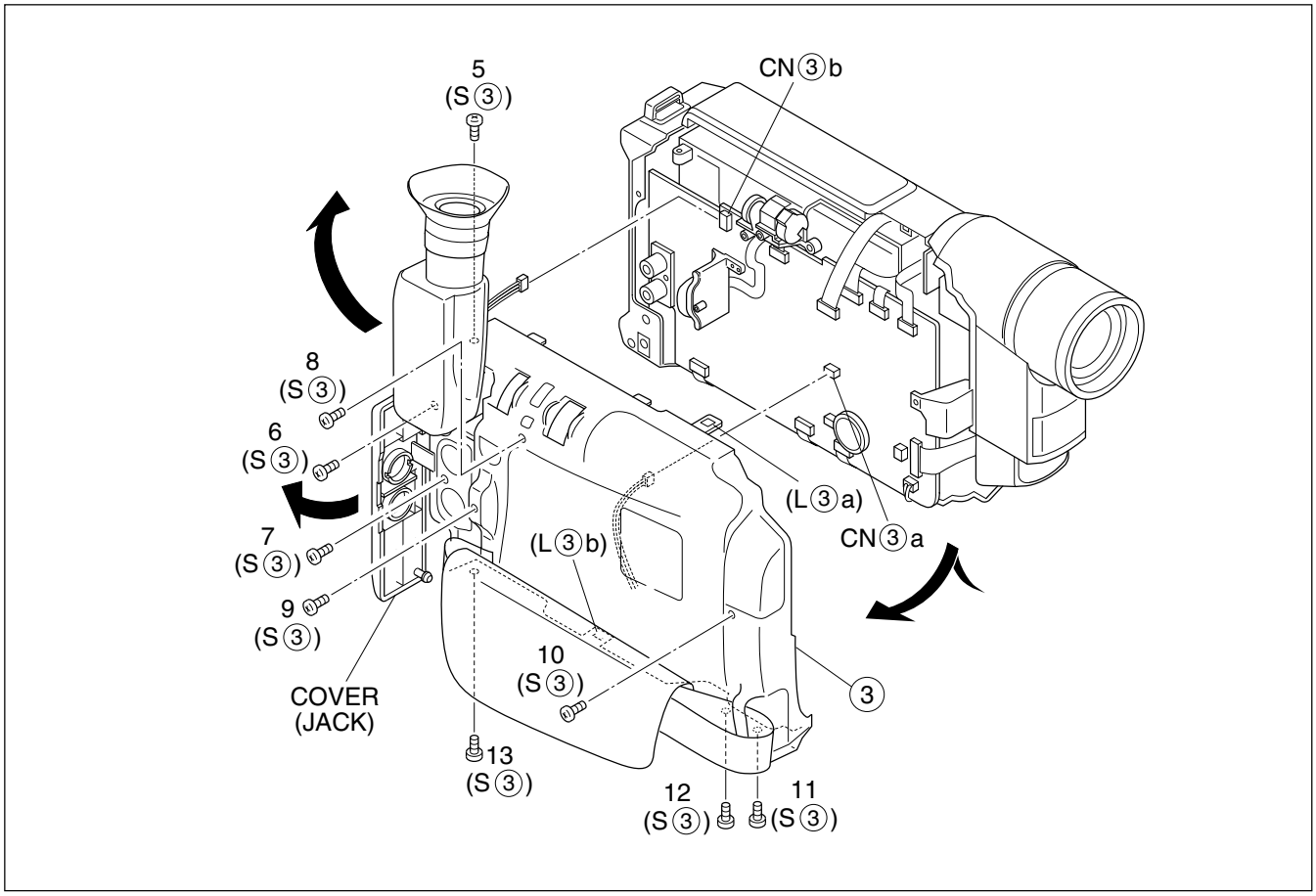


Fig. C3

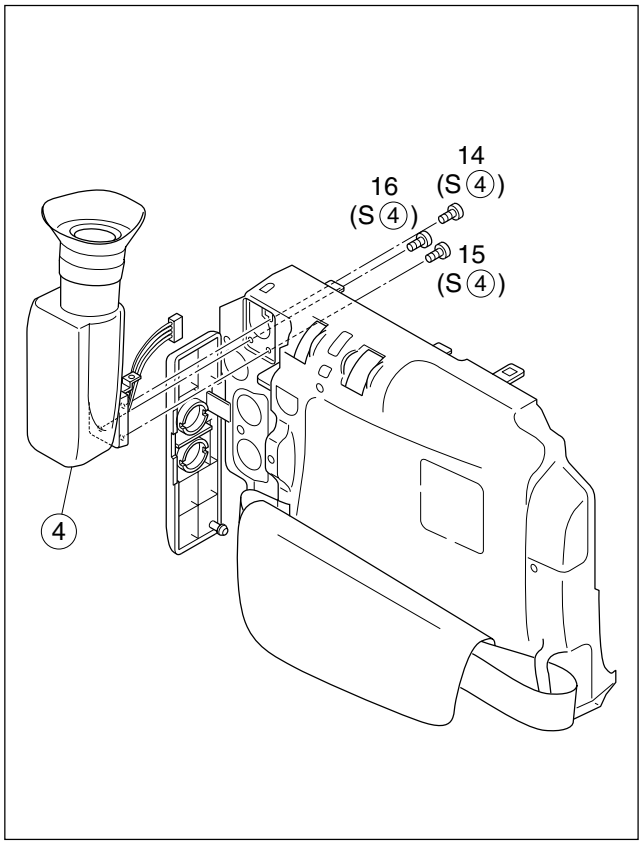


Fig. C4

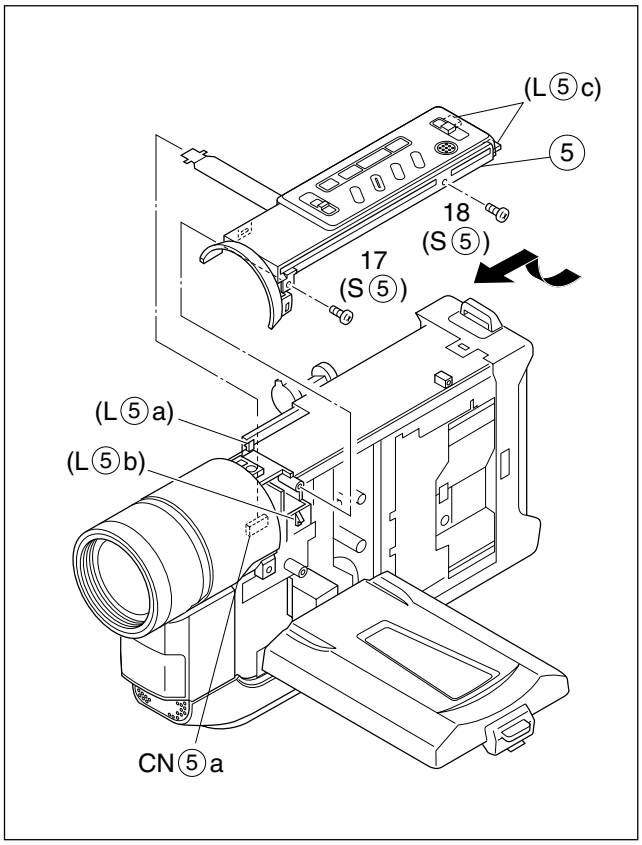


Fig. C5

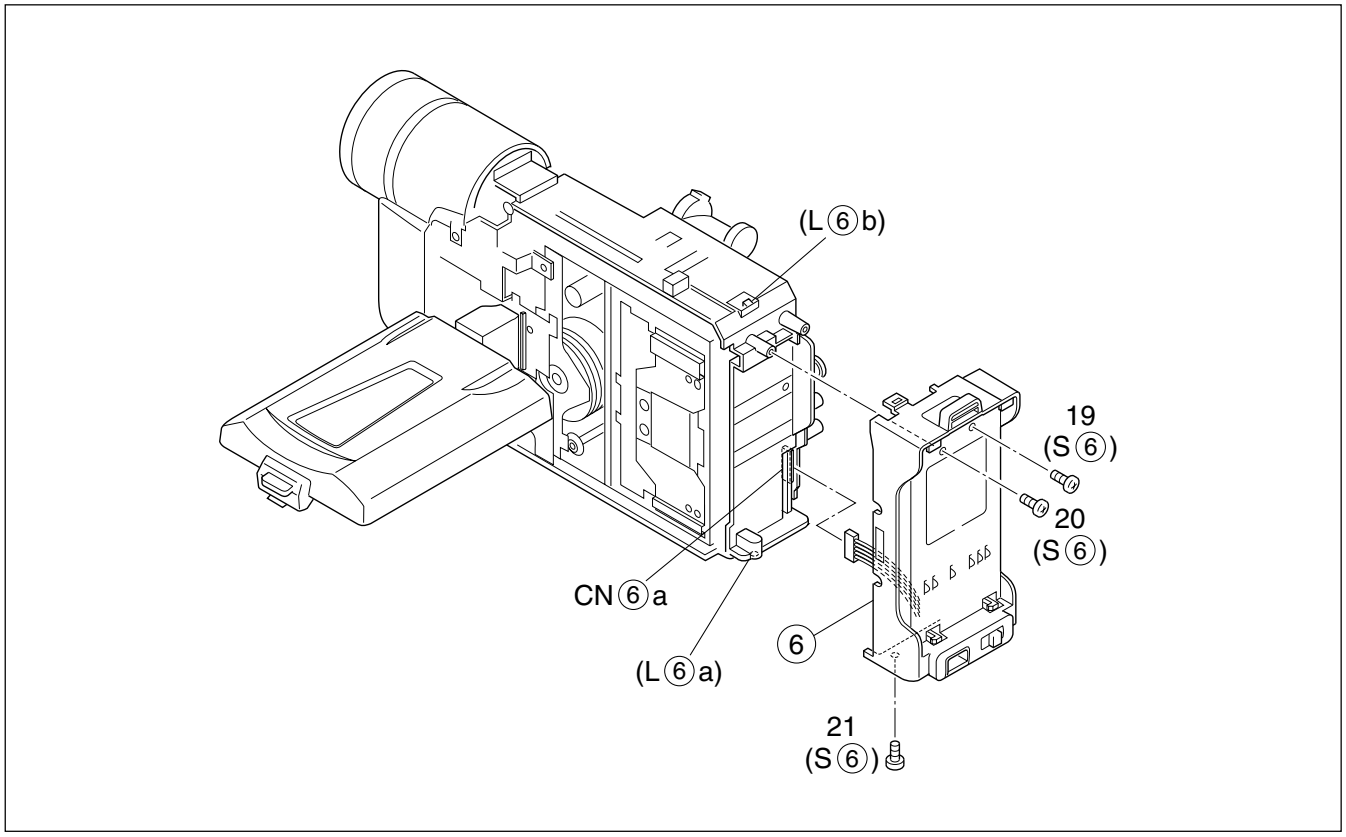

(L ⑥ b)
19
(S ⑥)
20
(S ⑥)
CN ⑥ a
(L ⑥ a)
6
21
(S ⑥)

Fig. C6

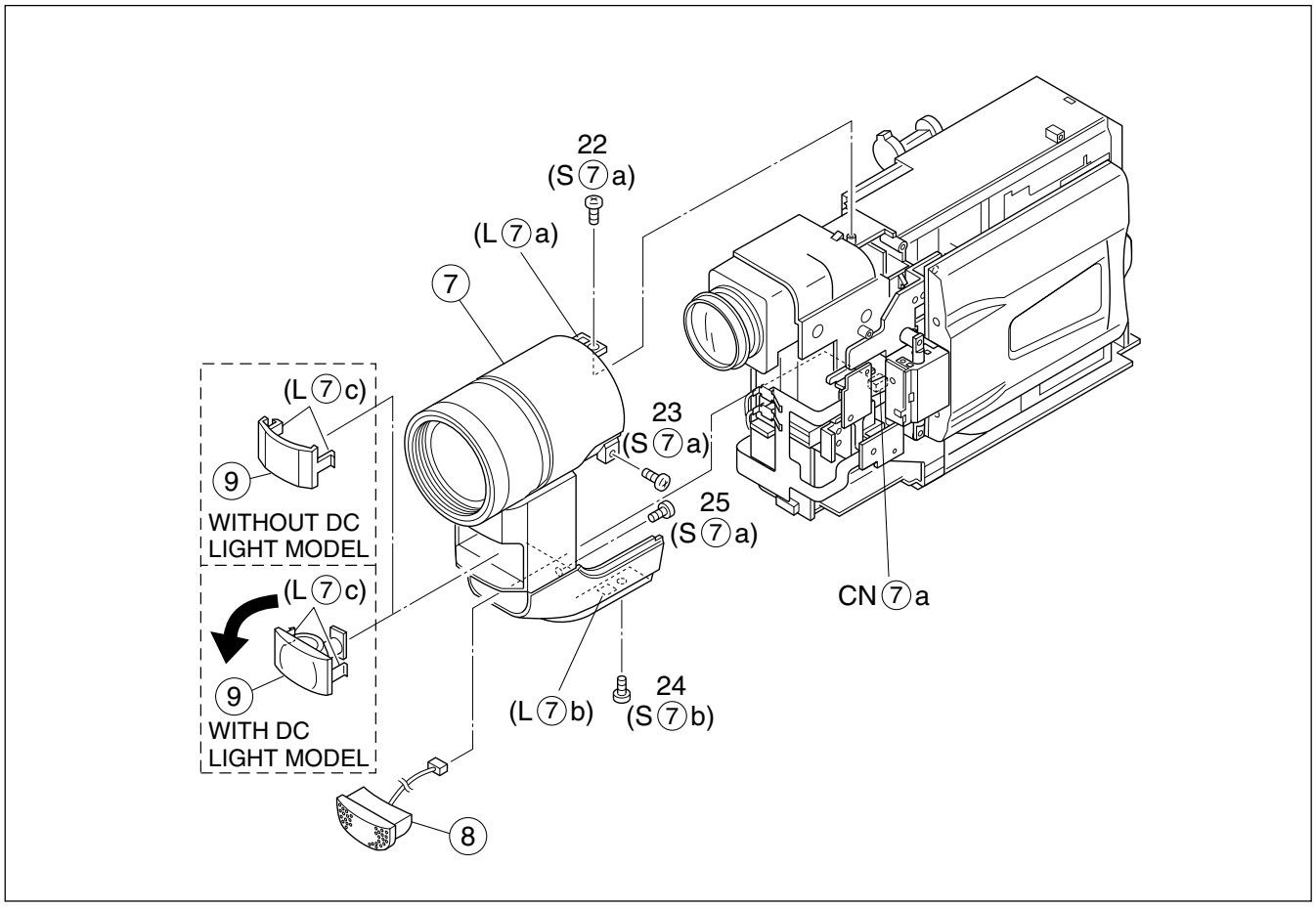

22
(S ⑦ a)
(L ⑦ a)
7
(L ⑦ c)
9
WITHOUT DC
LIGHT MODEL
23
(S ⑦ a)
25
(S ⑦ a)
CN ⑦ a
(L ⑦ c)
9
WITH DC
LIGHT MODEL
(L ⑦ b)
24
(S ⑦ b)
8

Fig. C7

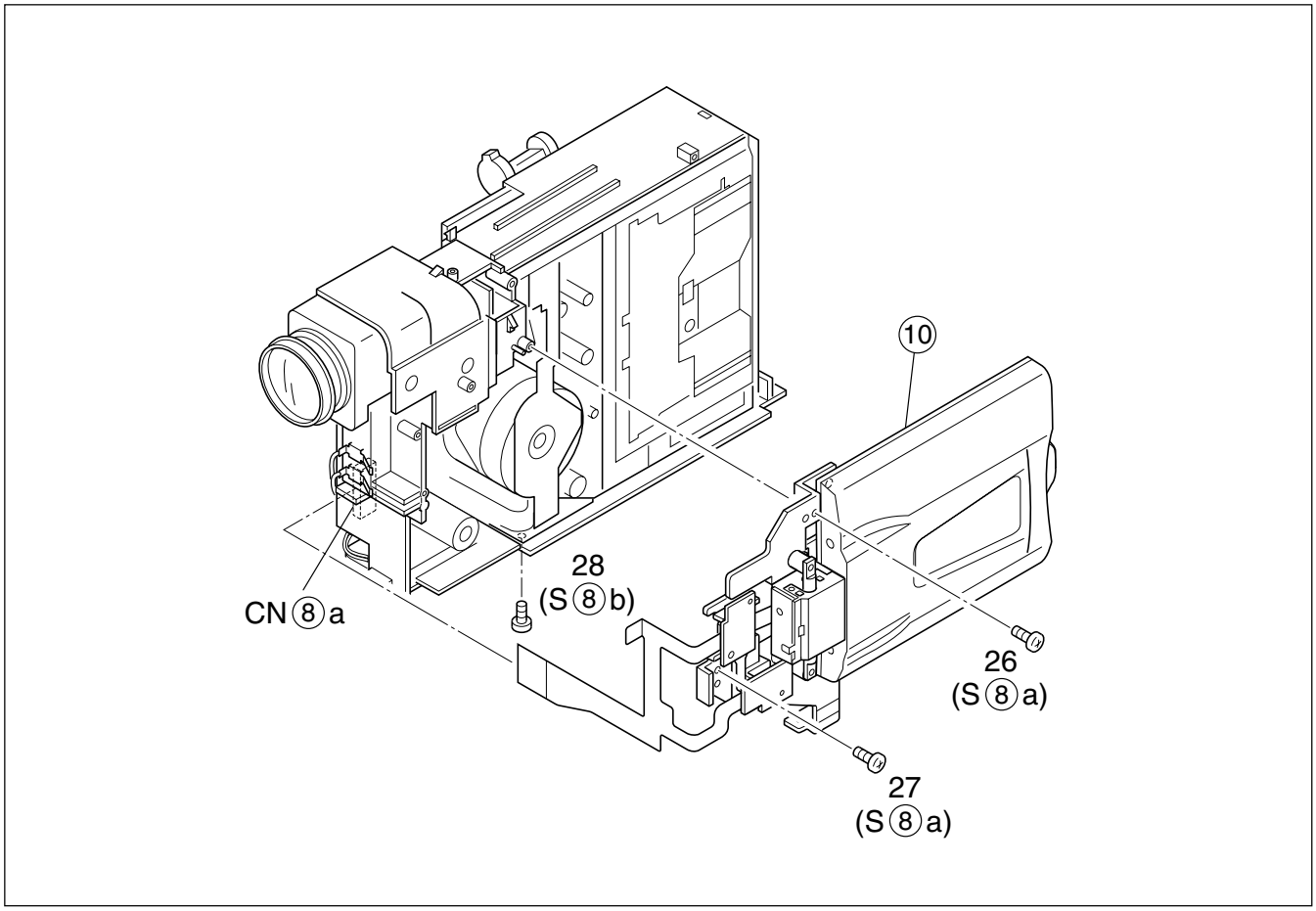

⑩
28
(S⑧b)
CN⑧a
26
(S⑧a)
27
(S⑧a)

Fig. C8

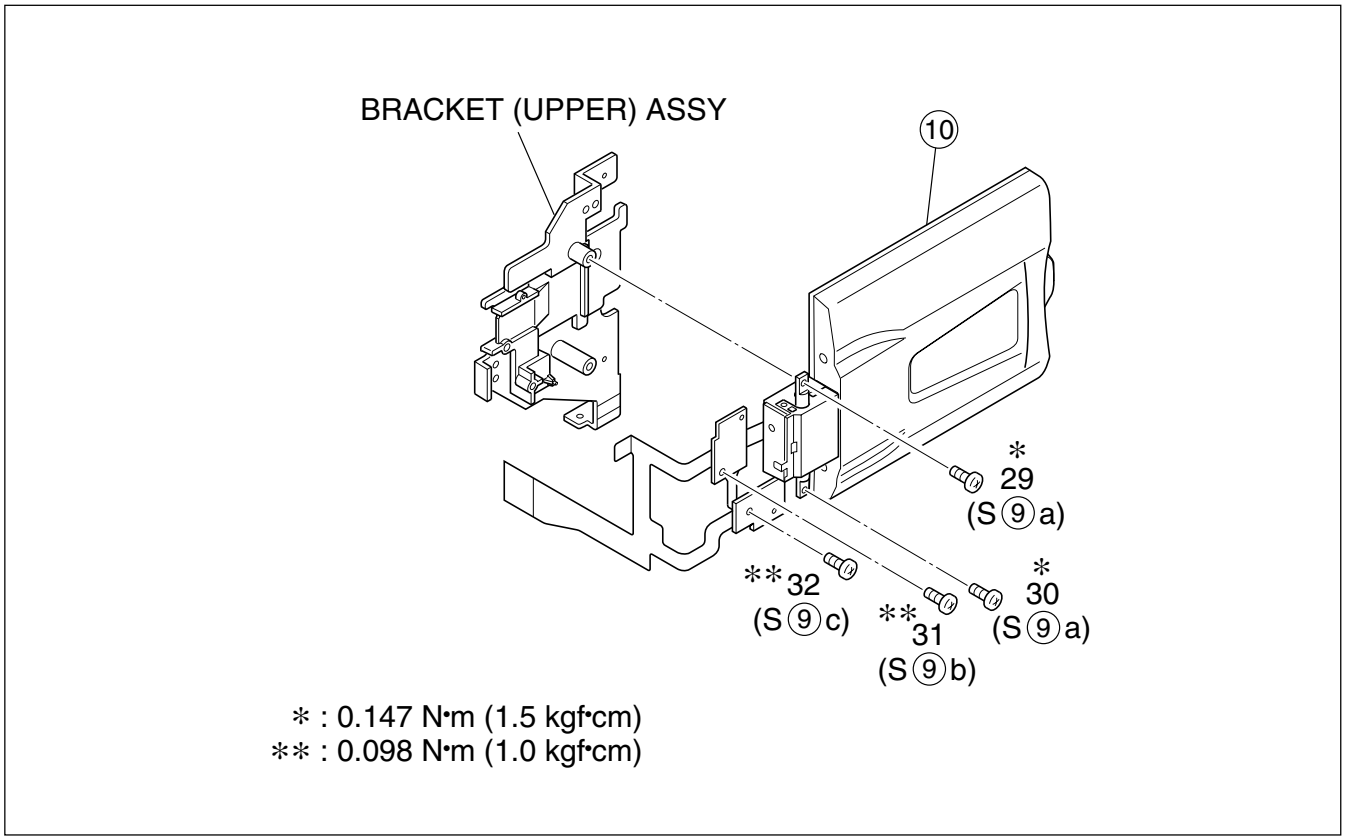

BRACKET (UPPER) ASSY
⑩
*
29
(S⑨a)
**32
(S⑨c)
**31
(S⑨b)
*
30
(S⑨a)
* : 0.147 N•m (1.5 kgf•cm)
** : 0.098 N•m (1.0 kgf•cm)

Fig. C9

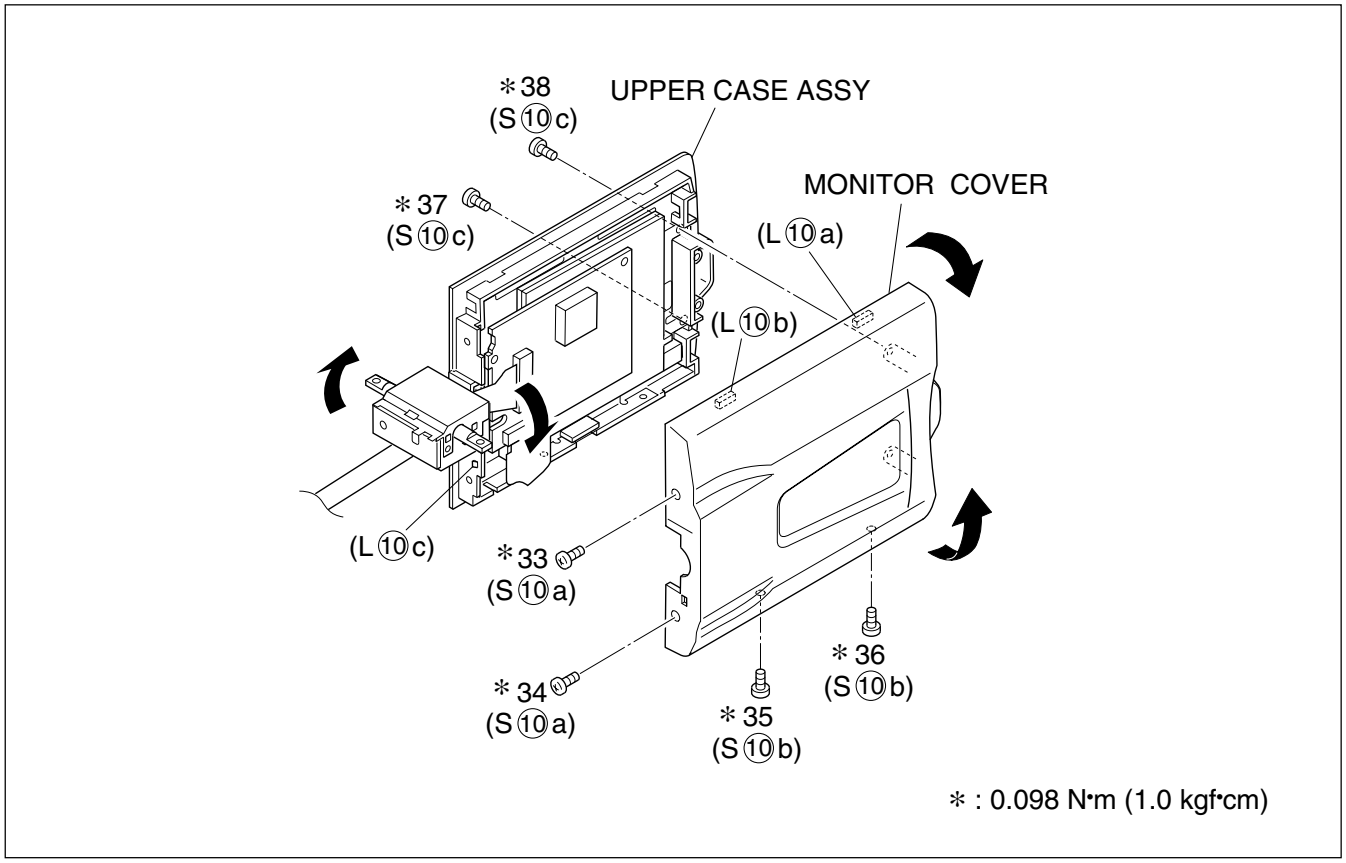


Fig. C10

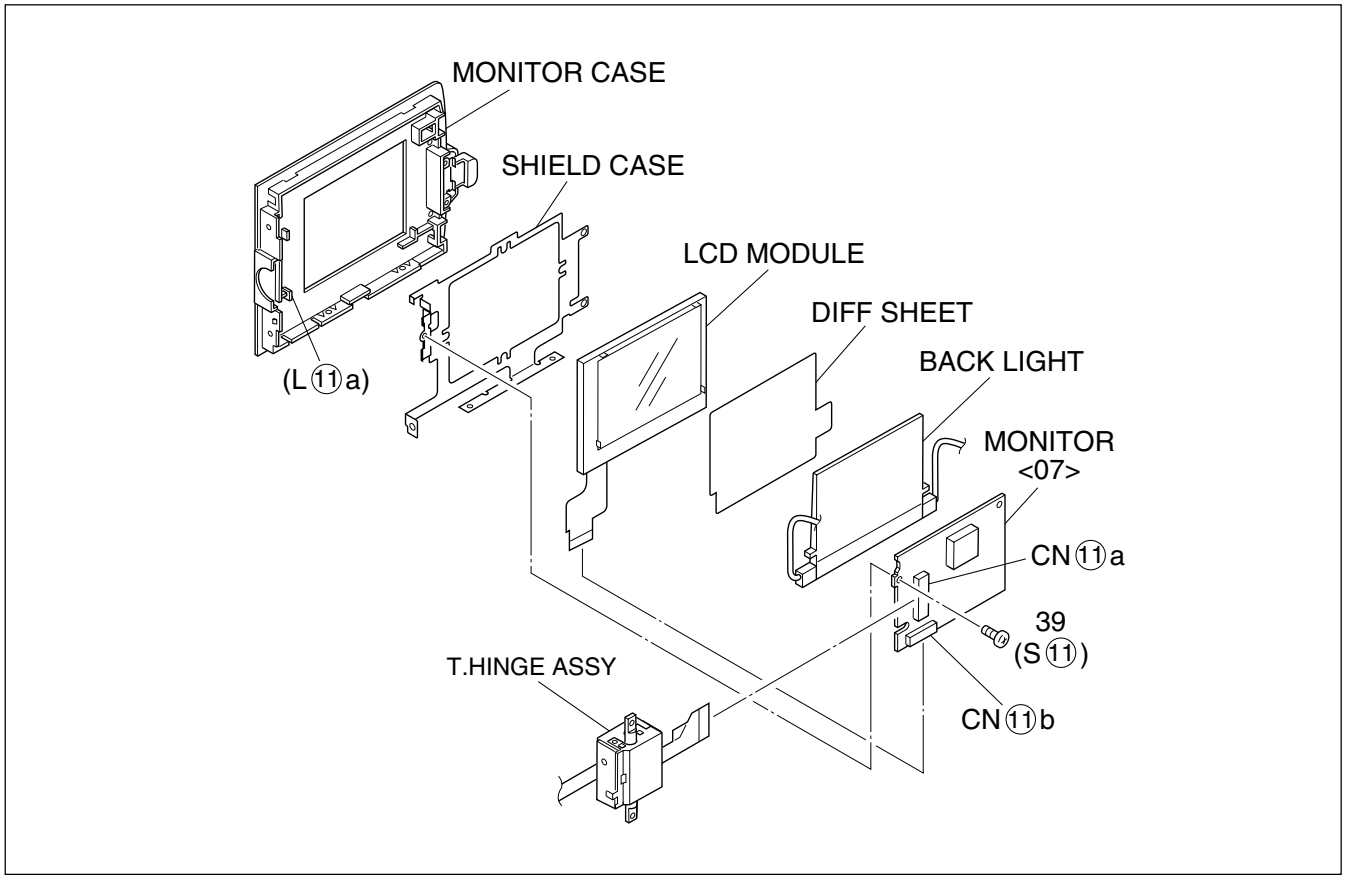


Fig. C11

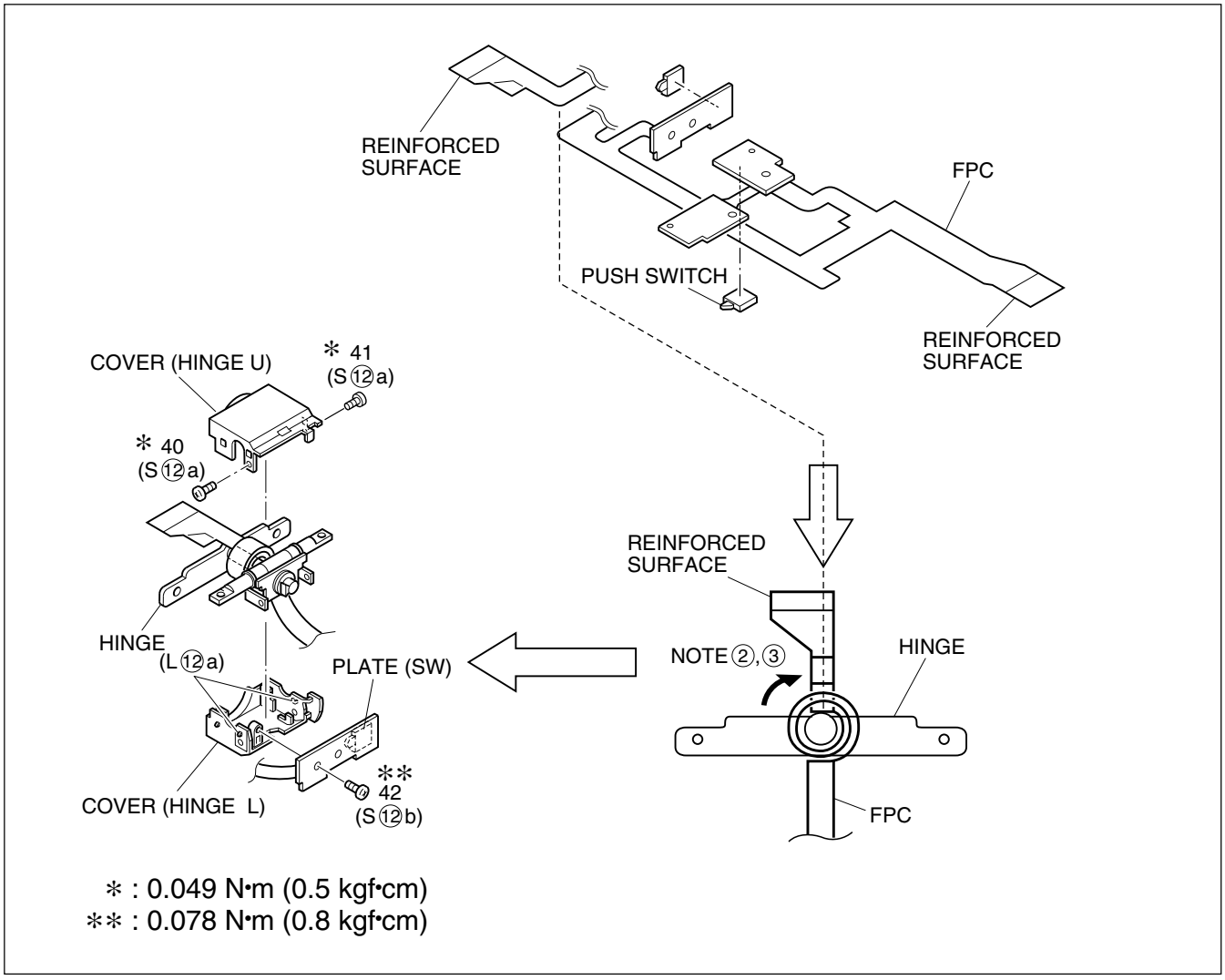


Fig. C12

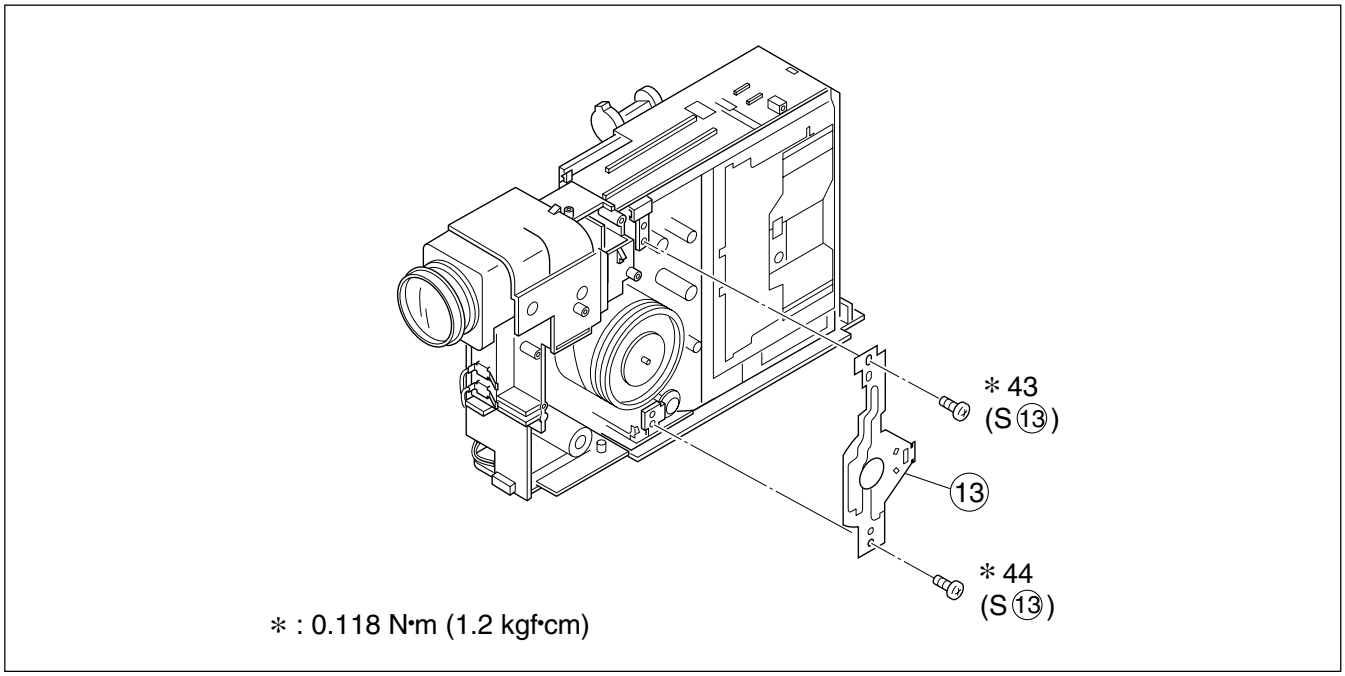


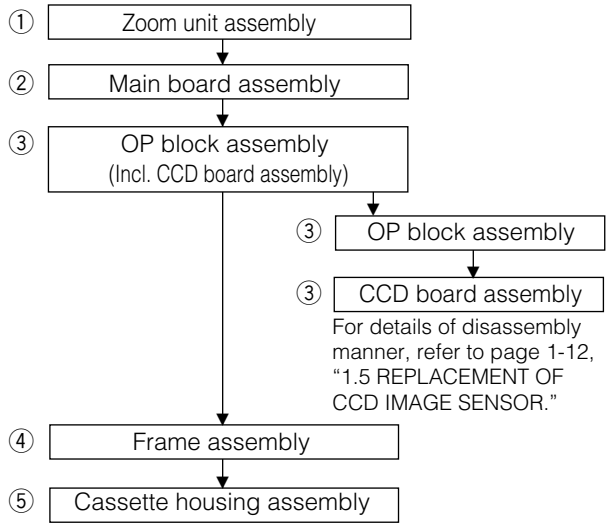
Fig. C13

1.4 DISASSEMBLY/ASSEMBLY OF CAMERA SECTION AND DECK SECTION

1.4.1 Flowchart of disassembly

The following flowchart shows the disassembly of the camera section and deck section. When assembly of the camera section and deck section, follow this flowchart in the reverse order.

<Camera section/Deck section>


① Zoom unit assembly
② Main board assembly
③ OP block assembly
(Incl. CCD board assembly)
③ OP block assembly
③ CCD board assembly
For details of disassembly manner, refer to page 1-12, "1.5 REPLACEMENT OF CCD IMAGE SENSOR."
④ Frame assembly
⑤ Cassette housing assembly

1.4.2 Disassembly method

STEP /LOC No.	PART	Fig. No.	REMOVAL
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER
①	ZOOM UNIT ASSEMBLY	D1	4(S①),(L①a),*CN①a
②	MAIN BOARD	D2	2(S②),(L②a) *CN②a,*CN②b,*CN②c,CN②d, CN②e,*CN②f,*CN②g,*CN②h,*CN②j
③	OP BLOCK ASSEMBLY (Incl. CCD BOARD ASSEMBLY)	D3	2(S③),CUSHON (OP)
④	FRAME ASSEMBLY	D4	2(S④a),2(S④b),(S④c)
⑤	CASSETTE HOUSING ASSEMBLY	D5	4(S⑤)

List of Abbreviations:
2(S①)=2 screws (S①)
4(L①a)=4 Locking Tabs (L①a)
CN=Connector

Reference Notes:
<NOTE 1>
Destination of connectors

Note : *Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.*
⇔ : Flat wire
↔ : Wire

Con-nector	No.of Pins	Connector		
CN①a	14	MAIN CN13	⇔	ZOOM UNIT
CN②a	14	MAIN CN2	⇔	SENSOR
CN②b	11	MAIN CN5	⇔	VIDEO/FLY. E HEAD
CN②c	10	MAIN CN1	⇔	DRUM MOTOR
CN②d	2	MAIN CN4	↔	LOADING MOTOR
CN②e	2	MAIN CN6	↔	DC LIGHT
CN②f	22	MAIN CN15	⇔	OP BLOCK
CN②g	14	MAIN CN22	⇔	CCD
CN②h	11	MAIN CN7	⇔	A/C HEAD
CN②i	18	MAIN CN3	⇔	CAPSTAN MOTOR

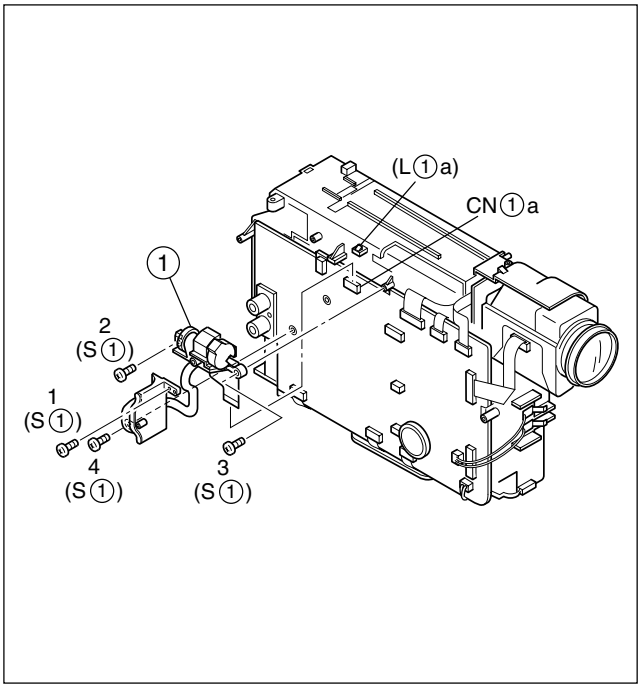


Fig. D1

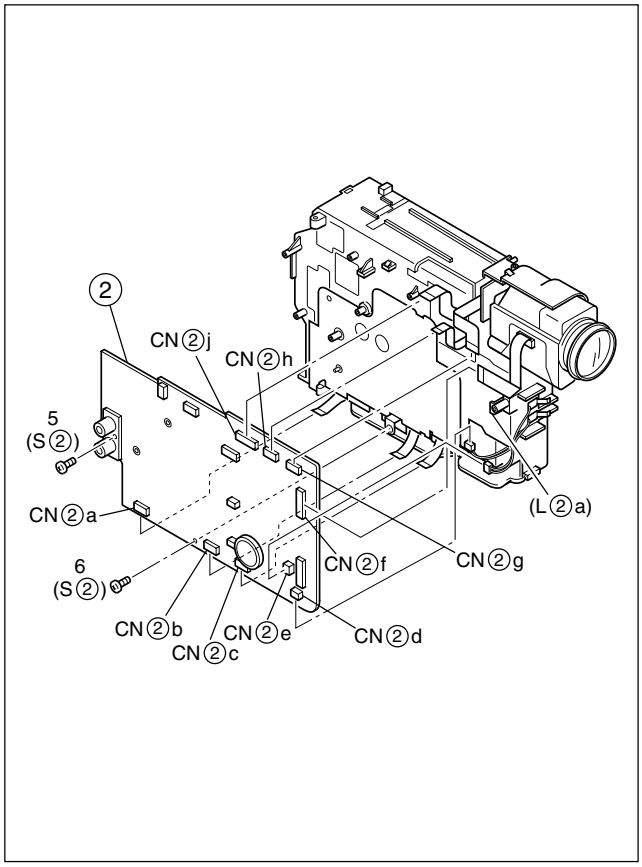


Fig. D2

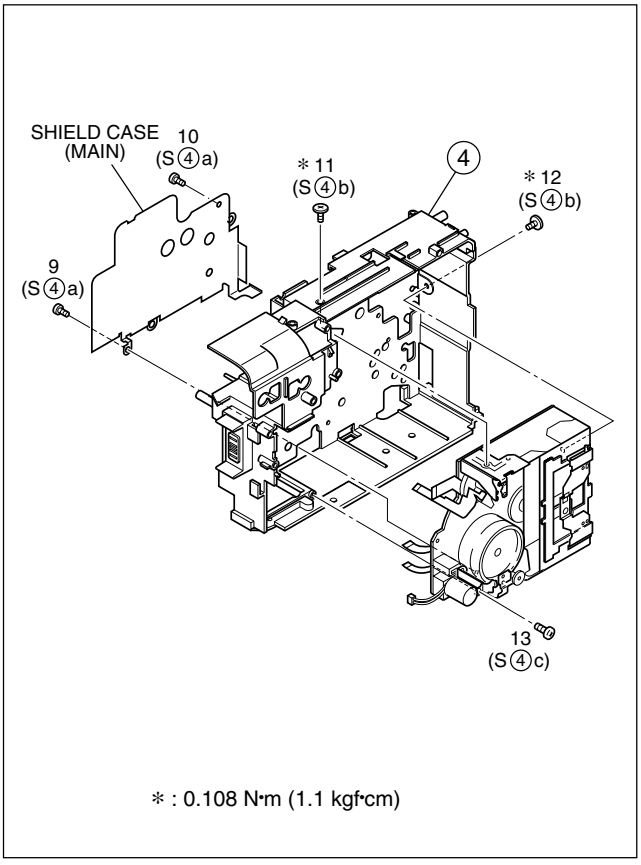


Fig. D4

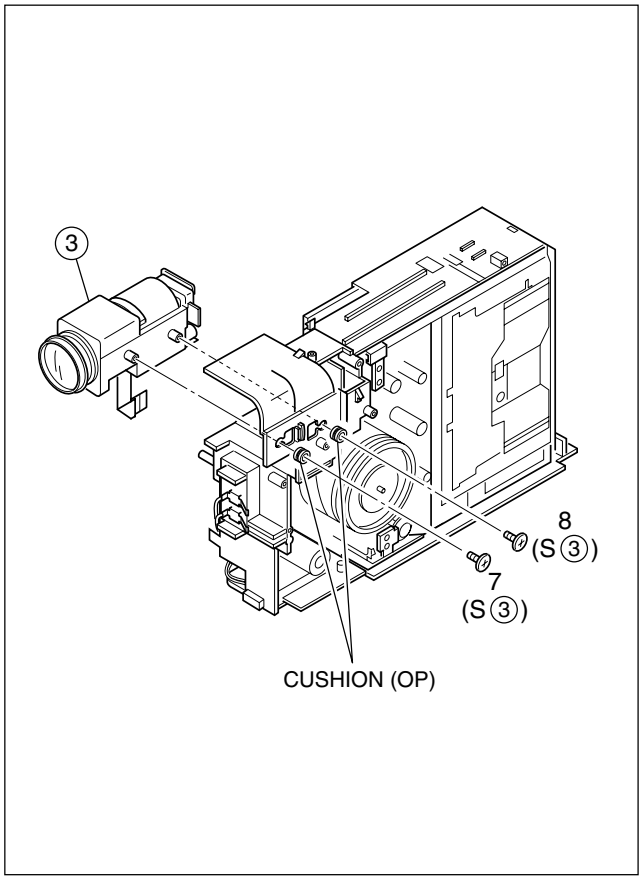


Fig. D3

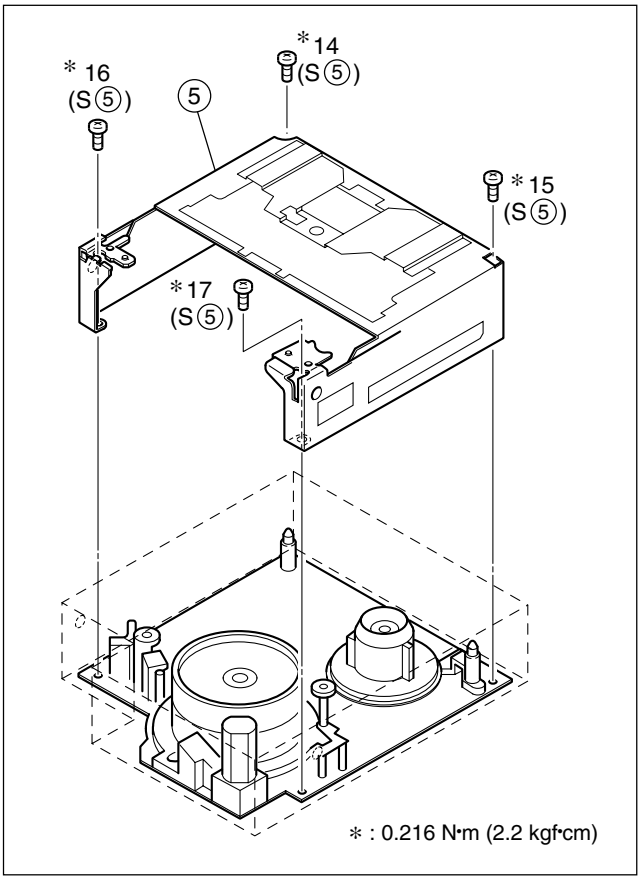


Fig. D5

1.5 REPLACEMENT OF CCD IMAGE SENSOR

Notes:

- *Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with finger-prints, etc., gently clean it with silicon-processed paper/cloth or chamois.*
- *When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.*

1.5.1 Removal of CCD image sensor

1. Remove two screws (1, 2) securing the CCD base assy, and disassemble the CCD spacer, the optical LPF, spacer rubber.

1.5.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the optical LPF, spacer rubber, CCD spacer on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item refering to the following table (see Fig. 1-5-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ .
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the left and bottom viewed as indicated by the arrow ⓐ .

2. Fix the CCD base assy to OP block with the two screws (1, 2) . At that time, be careful of the orientation.
3. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.

1.5.3 Replacement of CCD board assy

1. Remove one screw (3).
2. Unsolder at the fourteen points on the CCD board assy.

Note: *1. Remove the screw (3) only when the CCD board assy needs replacement.*
2. When installing a new CCD board assy, carry out the above-mentioned procedure in the reverse order.

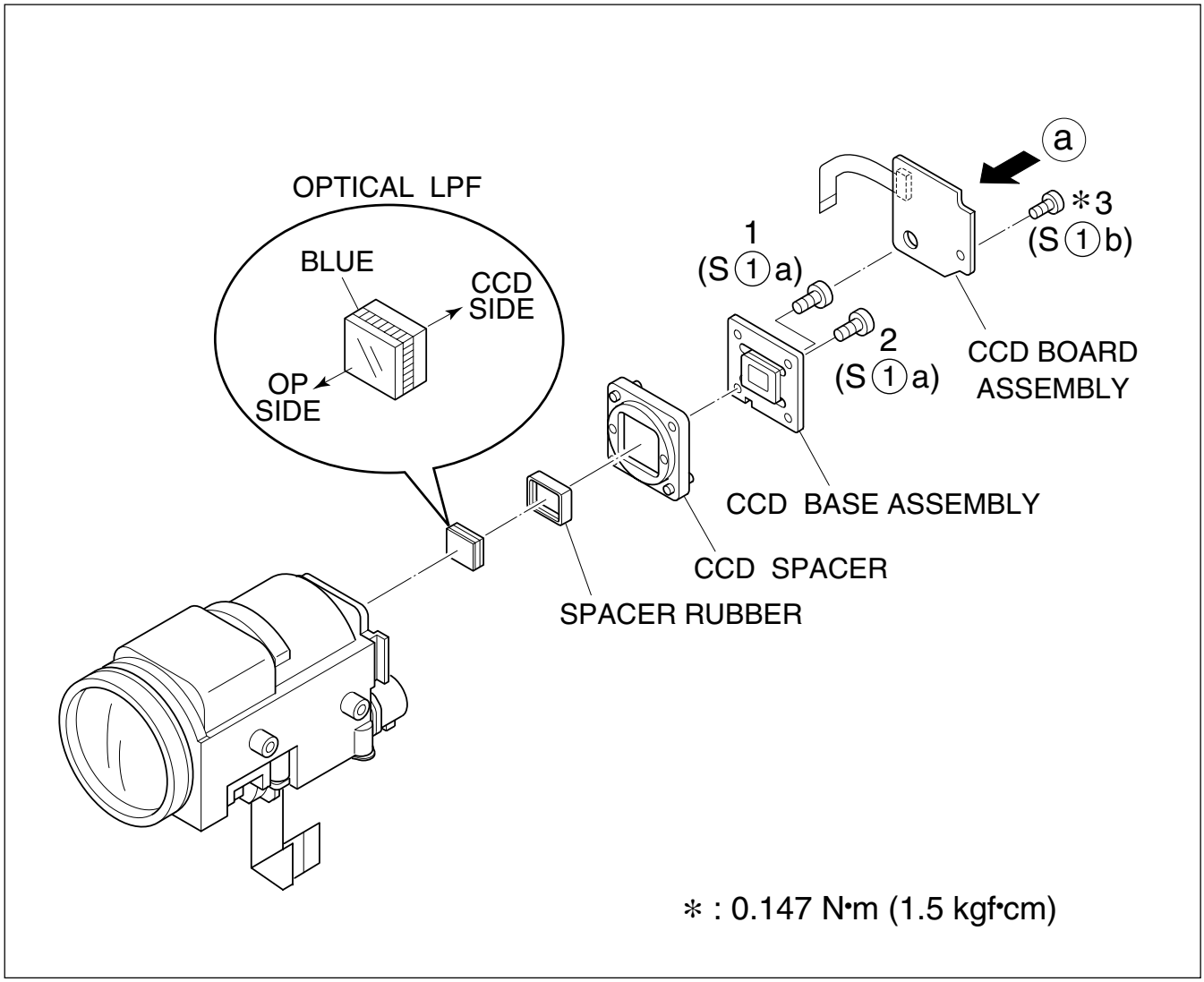


Fig. 1-5-1

1.6 TAKE OUT CASSETTE TAPE

In the event that the set enters the emergency mode as it is loaded with a cassette tape and the cassette tape cannot be ejected with the EJECT button, manually, take it out of the set according to the following procedure.

Note:

- *If the mechanism comes into the unloading mode as the cassette tape is not held by hand, it results in tape damage.*

1. Disconnect the set from the power source.
2. Remove the cassette cover assembly, Upper case, Lower case assembly, Top operation assembly, Monitor assembly (See Fig. C1, C2, C3, C5 and C8, Pages 1-4 to 1-7).
3. Connect a jumper wire to each pole of the loading motor as shown by the magnified view (Fig. 1-6-1)
4. While holding down the cassette housing by hand, connect the jumper wires to a battery to run the mechanism to the EJECT position four unloading. If this unloading operation is performed as the cassette housing is not held down by hand, the front lid of the cassette may damage the tape when it is ejected.
5. For taking in the slack of the tape, run the mechanism to the EJECT position as the front lid of the cassette is left open, and turn the take-up gear in the forward direction to wind up the tape. After confirming that the tape has completely been wound up and the supply reel is idling, take the cassette tape out of the cassette housing.

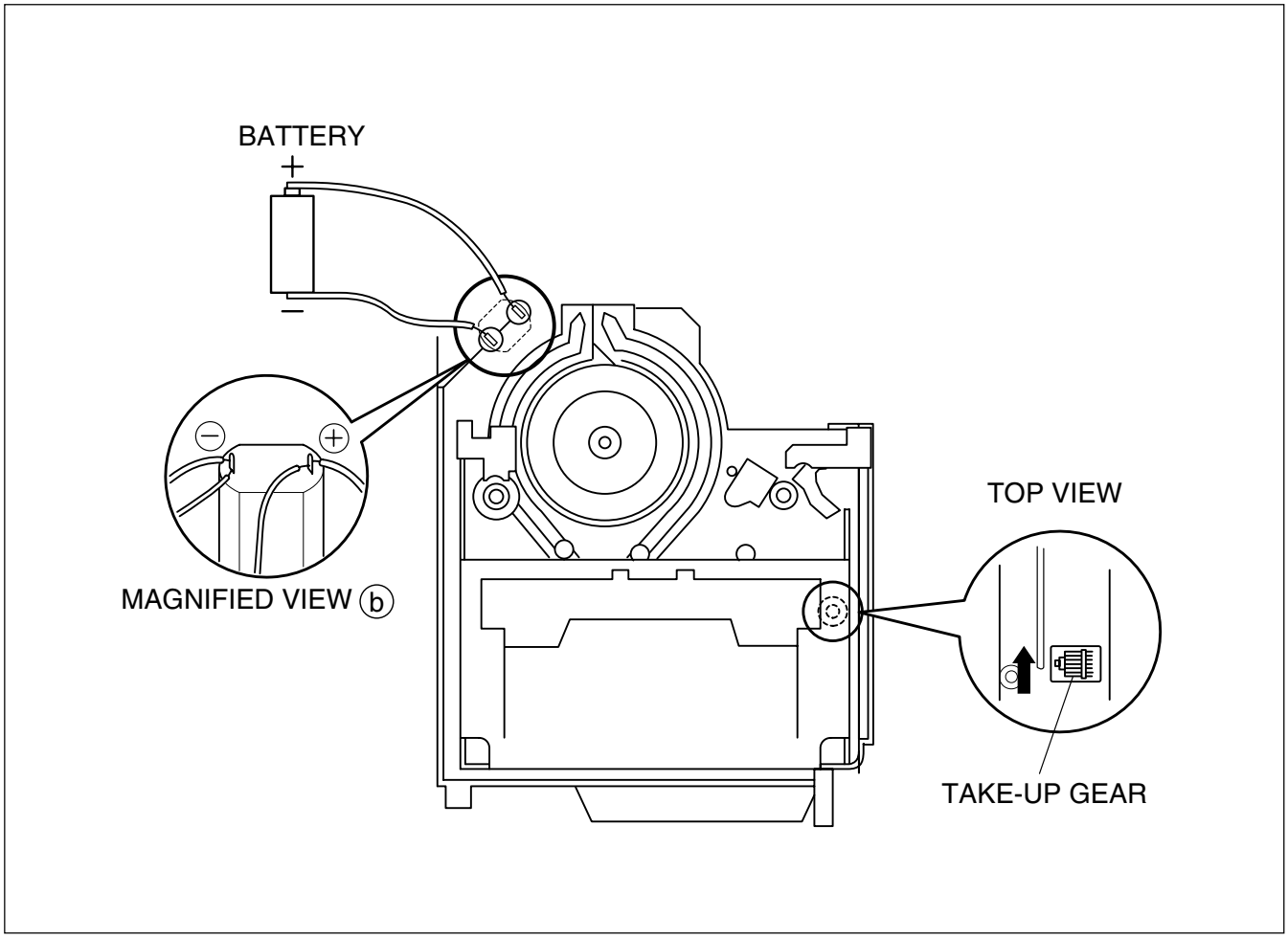


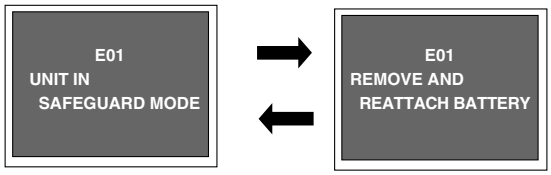
Fig. 1-6-1

1.7 EMERGENCY DISPLAY

Whenever some abnormal signal is input to the mechacon CPU, an error number (E01, as an exam-ple) is displayed in the electronic view finder.
In every error status, such the message as shown below alternately appear over and over.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

Example (in case of the error number E01):



E. VF	Symptom	Mode when observed	Resulting mode
E07	Short circuit of capstan MDA	Power ON	Power OFF
E06	CAPSTAN FG input absent	EDIT	Power OFF
E04	DRUM FF input absent	DRUM rotation	Power OFF
E03	SUPPLY REEL FG input absent	REC, PLAY, SEARCH, FF	UNLOADING → Power OFF
E02	Mode control motor rotates for more than 10 sec without shift to next mode	UNLOADING	Power OFF
E01	Mode control motor rotates for more than 10 sec without shift to next mode.	LOADING	Power OFF
E00	Overtime the programming transaction	REC, PLAY	Power OFF

1.8 DEMONSTRATION MODE

This model has the DEMONSTRATION mode.

1) How to set the DEMONSTRATION mode.
The camera can be entered into the DEMONSTRA-TION mode by setting on the DISPLAY screen appearing in the viewfinder.

When entering the camera into the DEMONSTRATION mode, pay heed to the following matters.

No cassette is set in the camcorder or a cassette is set in the camcorder but it is protected from recording.

Note: *1) The indications of the DISPLAY page very depending on the setting.*

2) How to cancel the DEMONSTRATION mode.
To cancel the DEMONSTRATION mode, turn the POWER switch off (“POWER OFF”).

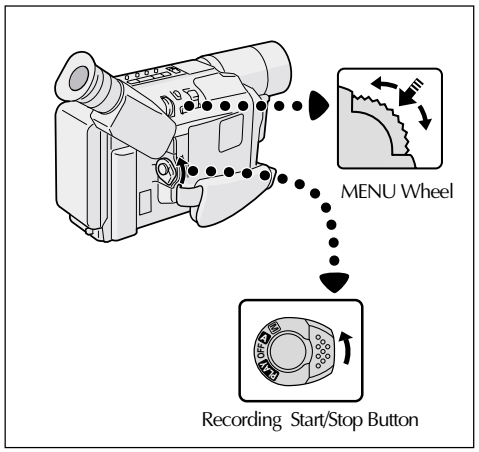
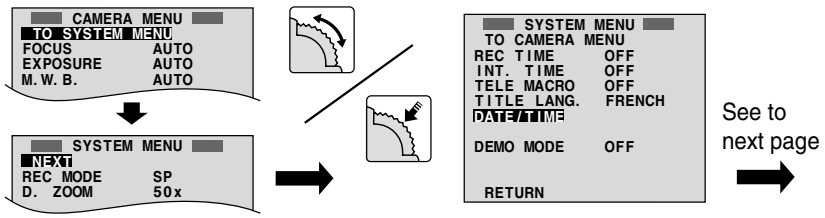


Fig. 1-8-1

1. Set the POWER switch to turn on the “M”.
Press the MENU WHEEL once.
The first page of the DISPLAY appears on the LCD monitor (or in the viewfinder).

2. Turn the MENU WHEEL in the direction of the arrow to set the cursor at “NEXT”.
Press the MENU WHEEL once.
The second page of the DISPLAY appears on the LCD monitor (or in the viewfinder).



Display 1

Display 2

See to next page

Note: *2) As the "DEMO MODE" is executed, the camcoder enters the DEMONSTRATION mode after the title screen of "TITLE CALL" and "FUTURE" appear in this order.*

<Flow chart>

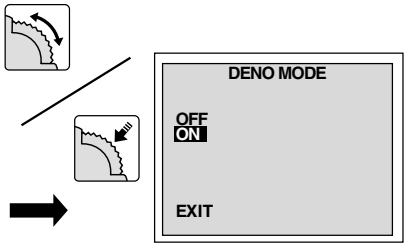
1. TITLE CALL and FUTURE
2. EASY PC CONNECTION
3. CREATE IMAGES & E-MAIL
4. NIGHT-SCOPE OFF
5. NIGHT-SCOPE ON
6. VHS
7. S-VHS (For S-VHS MODEL ONLY)
8. SNAP SHOT
9. PROGRAM AE FOG
10. PROGRAM AE ND EFFECT
11. FADE/WIPE BLACK
12. FADE/WIPE MOSAIC
13. FADE/WIPE SHUTTER
14. FADE/WIPE SLIDE
15. FADE/WIPE DOOR
16. FADE/WIPE CORNER
17. FADE/WIPE WINDOW
18. DIGITAL EFFECT NEGA/POSI
19. DIGITAL EFFECT STRETCH
20. DIGITAL EFFECT MOSAIC
21. DIGITAL EFFECT SEPIA
22. DIGITAL EFFECT B/W
23. DIGITAL EFFECT B.FILTER
24. DIGITAL EFFECT R.FILTER
25. DIGITAL EFFECT SOLARI
26. DIGITAL EFFECT STROBE
27. DIGITAL EFFECT CLASSIC
28. DIGITAL EFFECT VIDEO ECHO
29. WIDE OFF
30. WIDE ON
31. WIDE OFF
32. P.STABILIZER OFF
33. P.STABILIZER ON
34. P.STABILIZER OFF
35. P.STABILIZER ON

Fig. 1-8-2

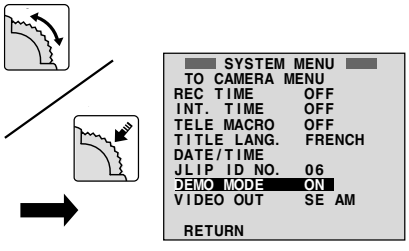
3. Turn the MENU WHEEL in the direction of the arrow to set the cursor at "DEMO MODE". Then, press the MENU WHEEL once.
   The third page of the DEMO MODE appears on the LCD monitor (or in the viewfinder).

4. Turn the MENU WHEEL in the direction of the arrow to set the cursor at "ON". Then, press the MENU WHEEL once.
   The fourth page of the DISPLAY appears on the LCD monitor (or in the viewfinder). ("DEMO MODE" is switched "ON" from "OFF" status.)

5. Press the MENU WHEEL once.
   The camcorder automatically enters the DEMONSTRATION mode and it repeats demonstration operation.
   While the camcorder is performing demonstration, all operations except turning on/off the POWER switch are ineffectual.



Display 3



Display 4

Refer to Fig. 1-8-2.
While the DEMONSTRATION mode is activated, a word of DEMONSTRATION is appearing on the screen scrolling from right to left.

MAIN ASS'Y

Symbol No. →	①		②		③									④			⑤		⑥			⑦ (⑧ , ⑨)			
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Place to stick screw →																									
Reference drawing →	Fig. C1		Fig. C2		Fig. C3									Fig. C4			Fig. C5		Fig. C6			Fig. C7			
Screw tightening torque →	I																								

Symbol No. →	⑩																				⑪	
Removing order of screw →	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44			
Place to stick screw →				✻	✻			✻	✻													
Reference drawing →	Fig. C8			Fig. C9				Fig. C10						Fig. C11	Fig. C12			Fig. C13				
Screw tightening torque →	I			V		II		II						I	VI		VII	III				

DECK ASS'Y

Symbol No. →	①				②		③		④					⑤			
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Place to stick screw →																	
Reference drawing →	Fig. D1				Fig. D2		Fig. D3		Fig. D4					Fig. D5			
Screw tightening torque →	I								I		IV		I	VIII			

OP B LOCK ASS'Y

Symbol No. →	③	
Removing order of screw →	1	2 3
Place to stick screw →		
Reference drawing →	Fig. 1-5-1	
Screw tightening torque →	I	V

< NOTE >

1) ✻ : Don't reuse the screw, because screw lock bond was applied to them.

2) Pay careful attention to tightening torque for each screw.

I : 0.196N·m (2.0kgf·cm) II : 0.098N·m (1.0kgf·cm) III : 0.118N·m (1.2kgf·cm)
IV : 0.108N·m (1.1kgf·cm) V : 0.147N·m (1.5kgf·cm) VI : 0.049N·m (0.5kgf·cm)
VII : 0.078N·m (0.8kgf·cm) VIII : 0.216N·m (2.2kgf·cm)

Table 1-9-1

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. When installing parts, be careful not to do with other parts as well as not to damage others. (Pay the most careful attention to the upper drum assy and tape transport mechanism.)

2.1.2 How to read the disassembly and assembly (For Mechanism Parts)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(2) Part to be removed or installed.

(3) Location of part.
T = Top
B = Bottom

(4) Fig. No. showing Procedure or Part Location.
M = Mechanism

(5) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.

(6) Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.1.3 Required adjustment tools

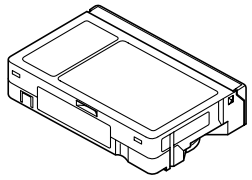
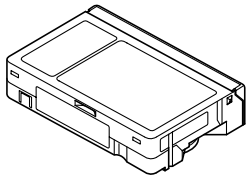
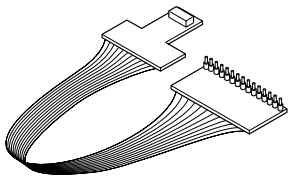
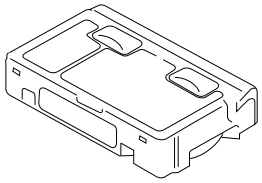
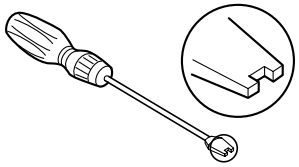
1 Alignment tape MHPE-C	2 Alignment tape MHPE-LC
	
3 Jig connector cable YTU93106A	4 Extension connector YTU94145B-30
	
5 Cassette torque meter PUJ50431-2	6 Roller Driver PTU94002-2
	

Table 2-1-1

1,2. Alignment tape
To be used for check and adjustment of interchangeability of the mechanism.
(Video: Color bar signal, Audio: Non-signal)

3. JIG connector cable
Connected to CN25 of the main board and used for measuring error rates, etc.

4. Extention connector
To be used to JIG connector cable

5. Cassette Torque Meter
This is used to cheek the back tension and play torque during mechanism adjustment.

6. Roller Driver
To be used to turn the roller driver to adjustment of the linearity of playback envelope.

(For Mechanism Parts)

STEP/LOC. No.	PART		Fig. No.	REMOVAL *UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	INSTALLATION ADJUSTMENT CONDITION NOTE
①	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
②	TENSION ARM ASSEMBLY	T	M1	(P1), (W1a)	–
③	REEL DISC (SUP)	T	M1	(W1a), (W1b)	–
↑ (1)	↑ (2)	↑ (3)	↑ (4)	↑ (5)	↑ (6)

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS

This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART		Fig. No.	REMOVAL *UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	INSTALLATION ADJUSTMENT CONDITION NOTE
①	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
②	TENSION ARM ASSEMBLY	T	M1	(P1), (W1a)	–
③	REEL DISC (SUP)	T	M1	(W1a), (W1b)	–
④	SLANT ARM ASSEMBLY	T	M1	(W1a)	–
⑤	CANCEL LEVER ASSEMBLY	T	M2	(W2)	–
⑥	EJECT LEVER ASSEMBLY	T	M2	(W2)	–
⑦	CASSETTE GUIDE (L) ASSEMBLY	T	M2	(S2)	–
⑧	SUPPLY CLUTCH ASSEMBLY	T	M2	(W2)	–
⑨	WHEEL GEAR	T	M2	(W2)	See, Adjustment procedure for Section 2.3
⑩	ROTARY ENCODER	B	M3	4(S3a)	The function of this part varies according to the assembly (VHS/S-VHS) which this part is rporated in.
⑪	TIMING BELT	B	M3	–	–
⑫	CENTER PULLEY UNIT	T/B	M3	2(S3a)	–
⑬	CASSETTE GUIDE (R) ASSEMBLY	T	M3	(S3b), (P3)	(Only use S-VHS model)
⑭	TU GEAR	T	M3	(W3a)	–
⑮	BRAKE SUB GEAR	T	M3	(W3a)	–
⑯	P.R ARM ASSEMBLY	T	M3	(W3b)	–
⑰	TU GUIDE ARM ASSEMBLY	T	M3	(W3a)	–
⑱	LINK ARM ASSEMBLY	T	M4	(W4)	–
⑲	LED GUIDE	T	M4	(S4a)	–
⑳	A/C HEAD UNIT	T	M4	2(S4b)	–
㉑	SLANT POLE BASE ASSEMBLY	T	M5	(S5a)	–
㉒	CAP MOTOR ASSEMBLY	T	M5	3(S5a)	–
㉓	MOTOR BASE	T	M5	2(S5b), (S5c)	–
㉔	BRUSH	B	M6	(S6a)	–
㉕	DRUM FINAL	T/B	M6	2(S6b), 2(S6c) *CATCHER	–
㉖	GUIDE RAIL	T	M6	8(S6d)	–
㉗	POLE BASE (SUP)	T	M6	–	–
㉘	POLE BASE (TU)	T	M6	–	–
㉙	COVER PLATE	T	M7	–	–
㉚	DRIVE LEVER ASSEMBLY	T	M7	–	–
㉛	MOTOR BRACKET ASSEMBLY	T	M7	3(S7)	–
㉜	CONTROL CAM	T	M8	(W8a)	See, Adjustment procedure for Section 2.3
㉝	LINK LEVER	T	M8	–	–
㉞	MIDDLE GEAR	T	M8	–	–
㉟	LOADING GEAR(T) ASSEMBLY	T	M8	(W8b)	See, Adjustment procedure for Section 2.3
㊱	LOADING GEAR(S) ASSEMBLY	T	M8	(W8b)	–
㊲	LOADING RING ASSEMBLY	T	M8	4(S8)	See, Adjustment procedure for Section 2.3

Table 2-2-1

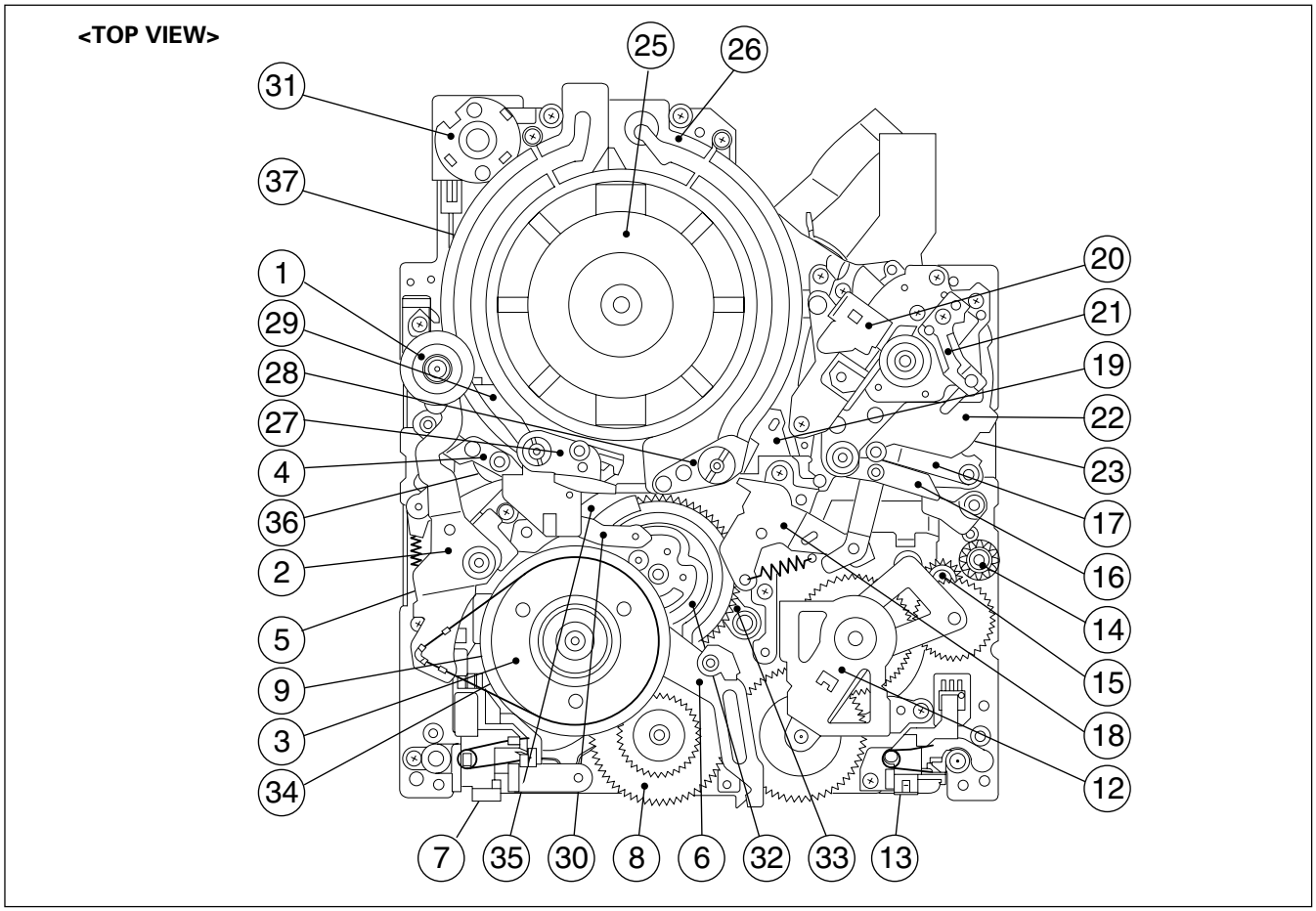


Fig. 2-2-1 TOP VIEW

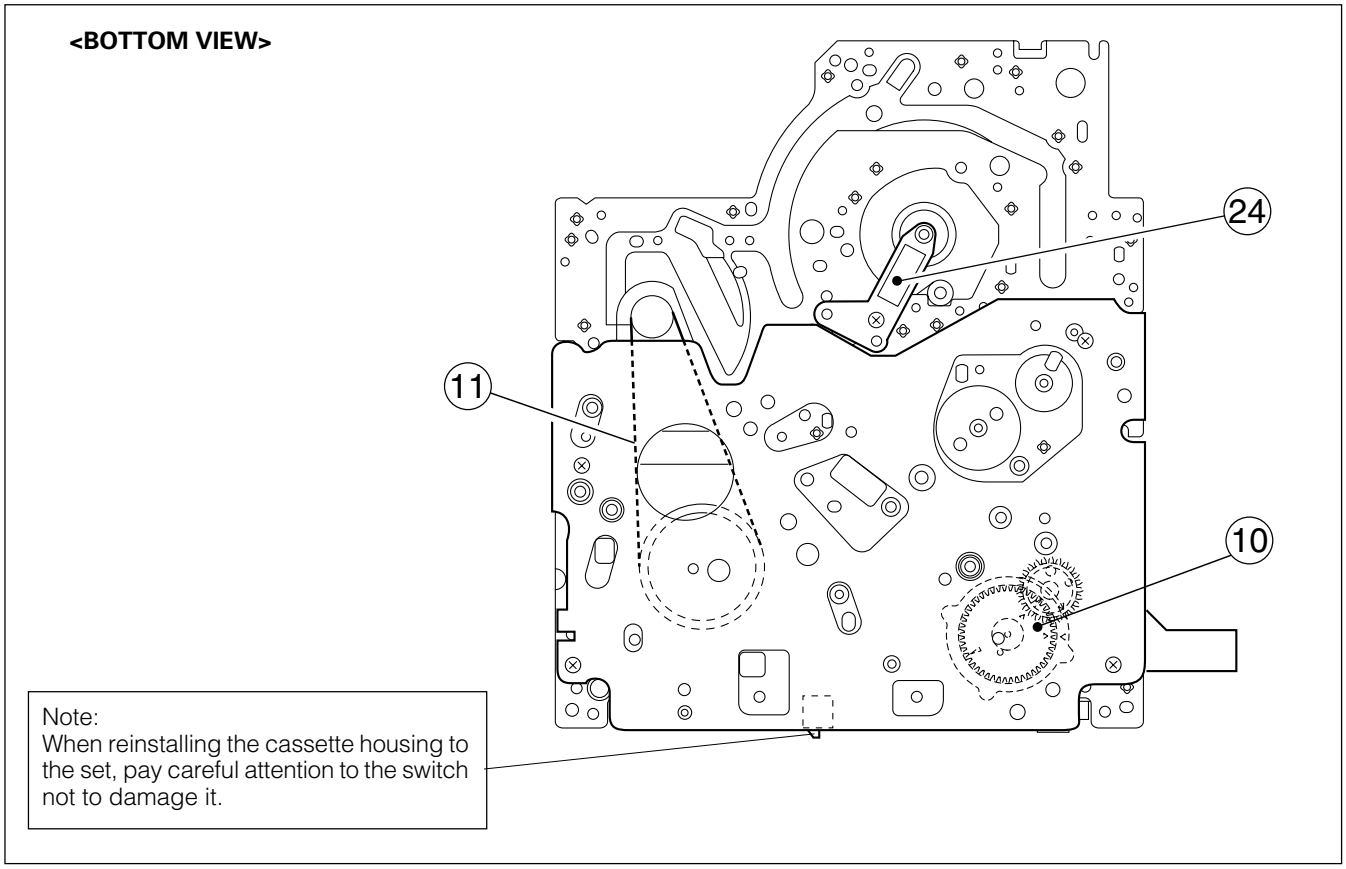


Fig. 2-2-2 BOTTOM VIEW

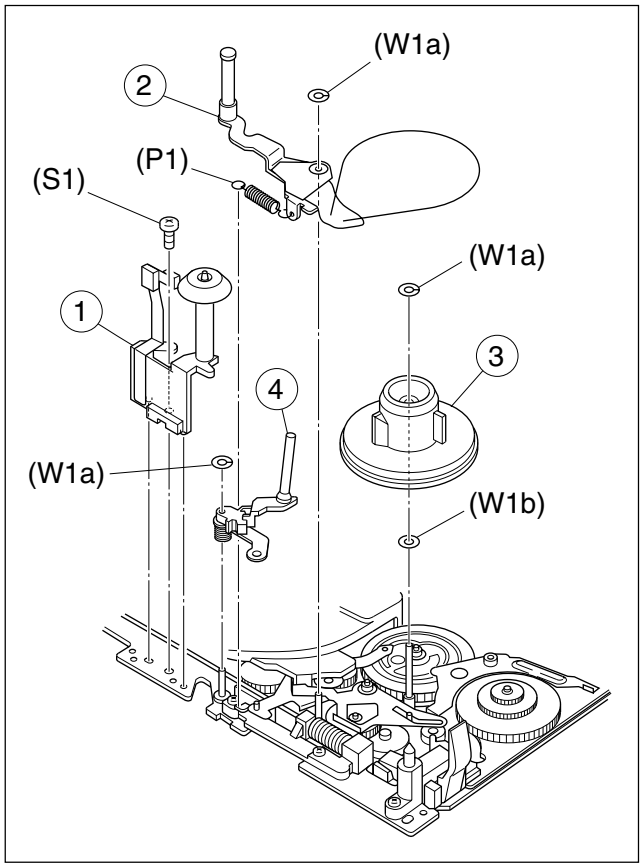


Fig. M1

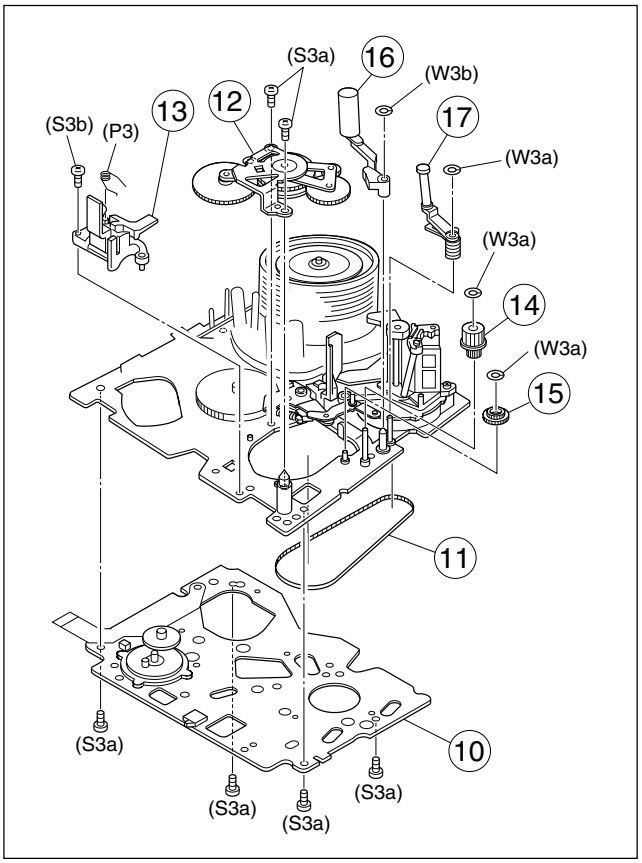


Fig. M3

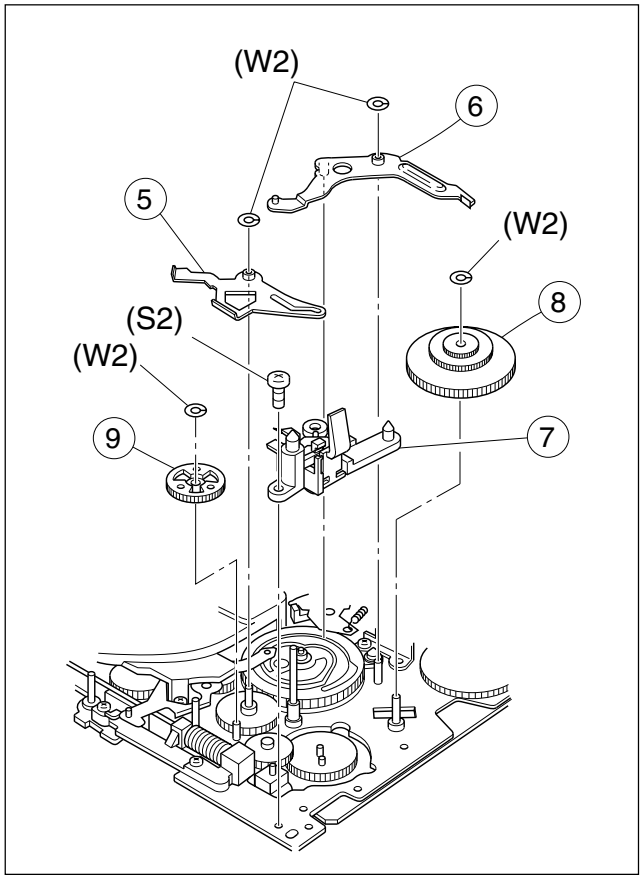


Fig. M2

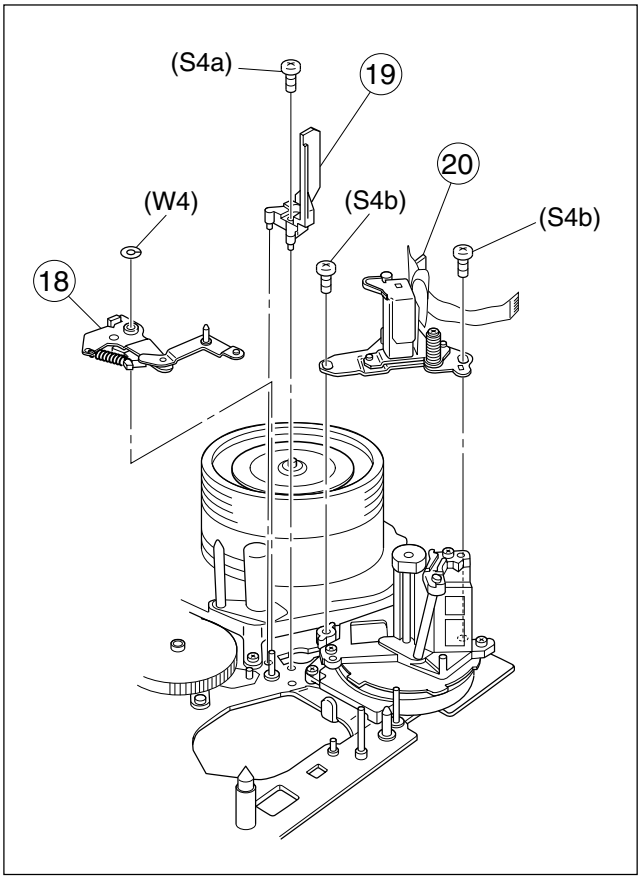


Fig. M4

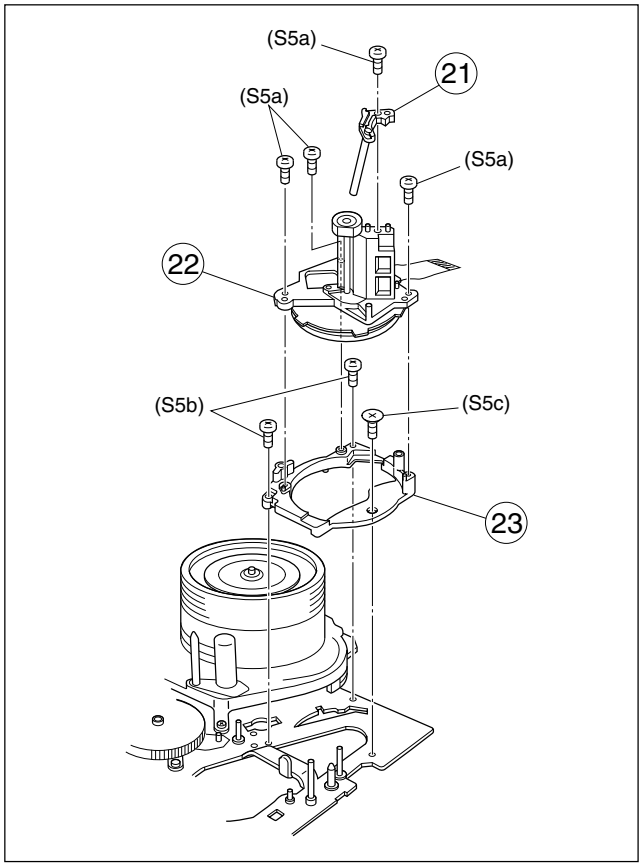


Fig. M5

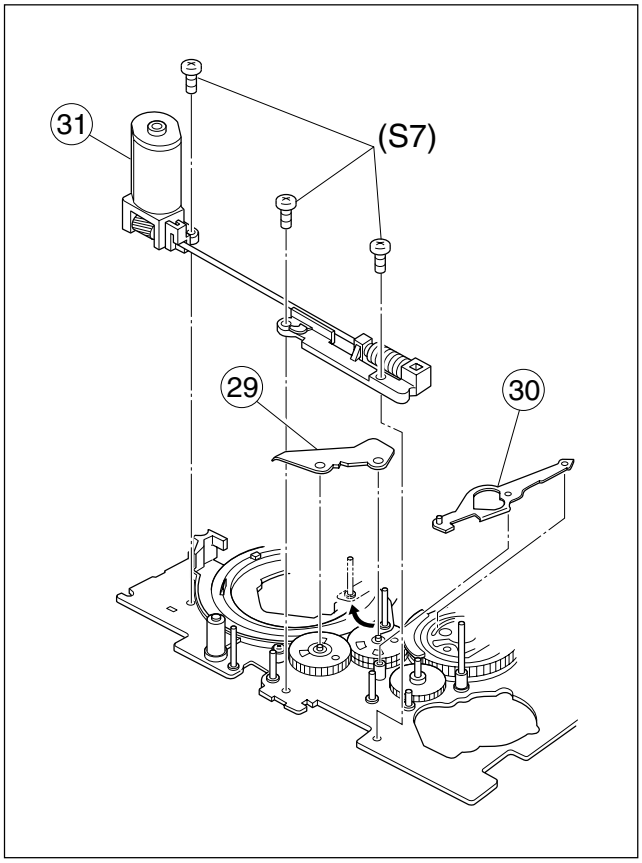


Fig. M7

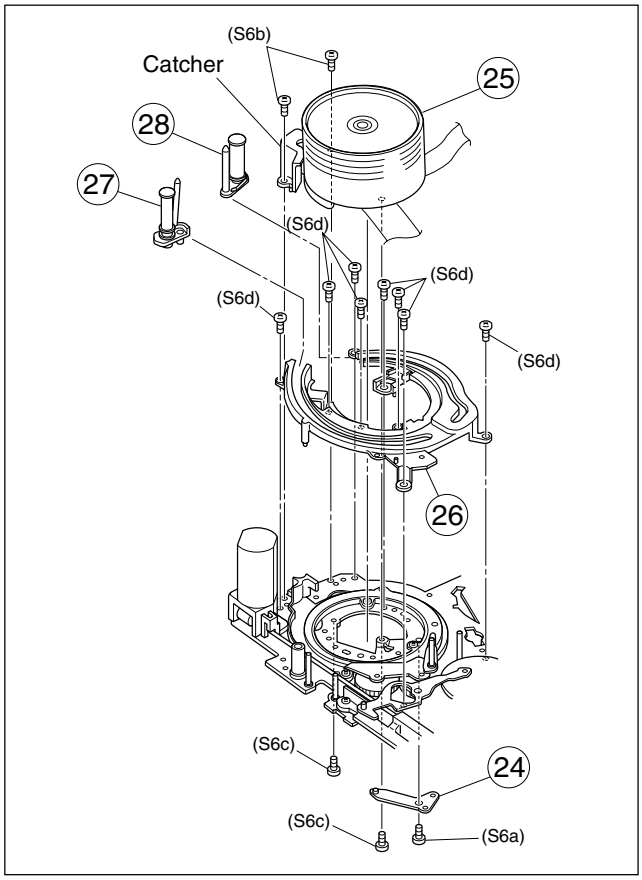


Fig. M6

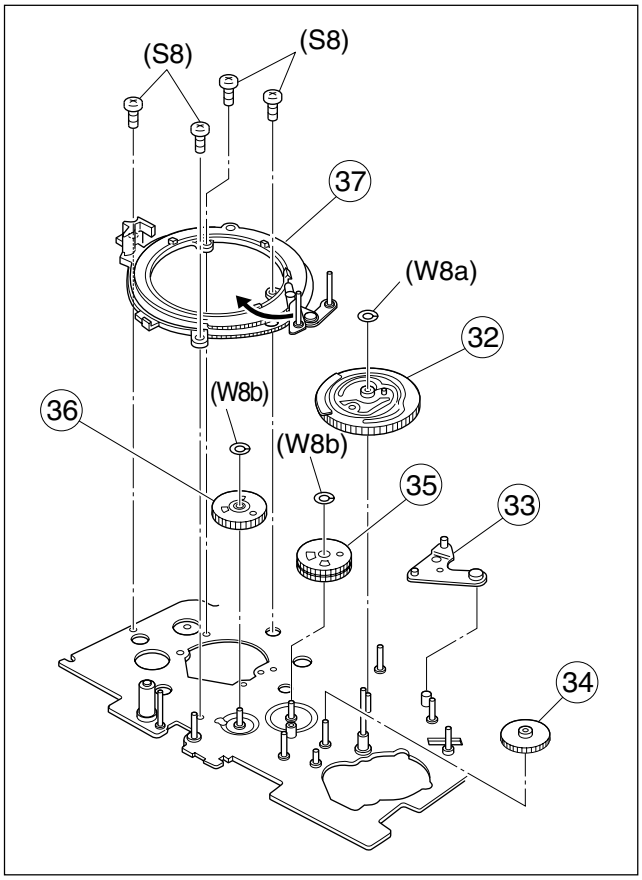


Fig. M8

2.3 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

Note: *Pay careful attention to the installing order and phase of mechanism parts of the loading system.*

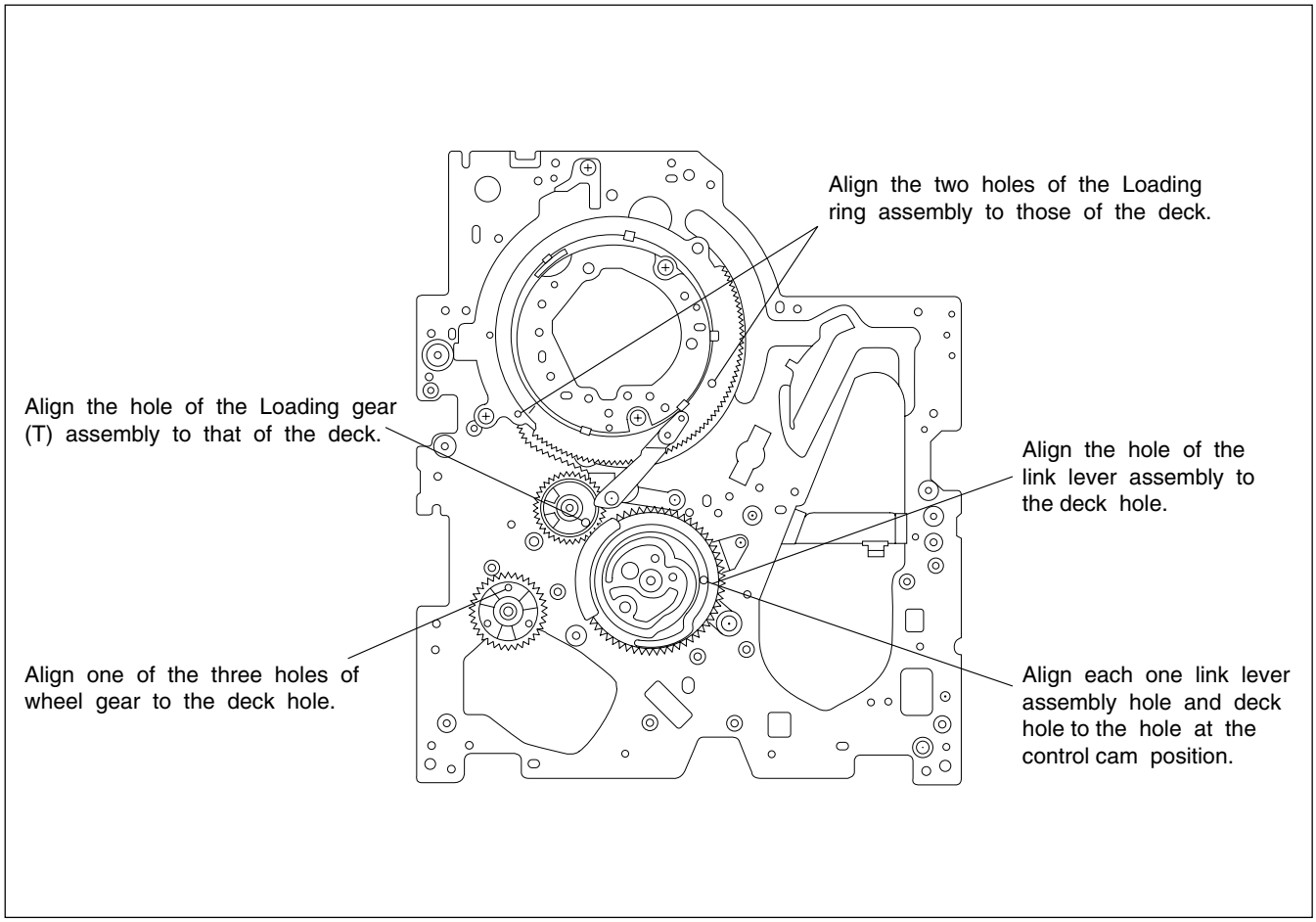

Align the two holes of the Loading ring assembly to those of the deck.
Align the hole of the Loading gear (T) assembly to that of the deck.
Align the hole of the link lever assembly to the deck hole.
Align one of the three holes of wheel gear to the deck hole.
Align each one link lever assembly hole and deck hole to the hole at the control cam position.

Fig. 2-3-1 Top of main deck

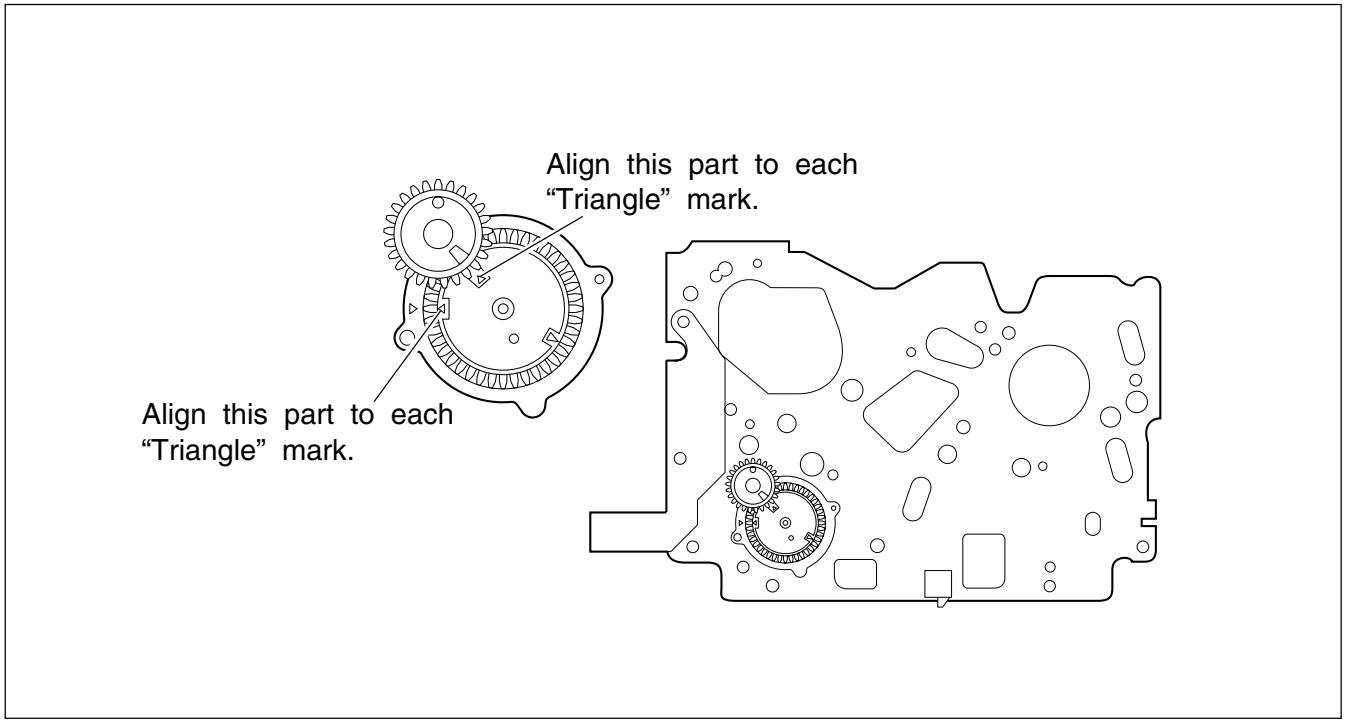


Fig. 2-3-2 Rotary encoder

2.4 TAPE TRANSPORT ADJUSTMENT

In most cases the deck section is in need electrical adjustment, it results from replacement of worm mechanical parts or video heads. In the event of malfunction with electrical circuits, troubleshouting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

2.4.1 Back tension

1. Set a cassette torque meter onto the deck and measure the back tension in standard REC mode to confirm that the back tension is $0.7x10^{-3}$ – $1.37x10^{-3}$ N•m.
2. If not, replace the tension band.
   When the value widely fluctuates in the measurement, replace the supply reel disk.
3. With the cassette torque meter, confirm that the play torque is $1.47x10^{-3}$ – $2.45x10^{-3}$ N•m.
   If necessary, replace the center pully unit.

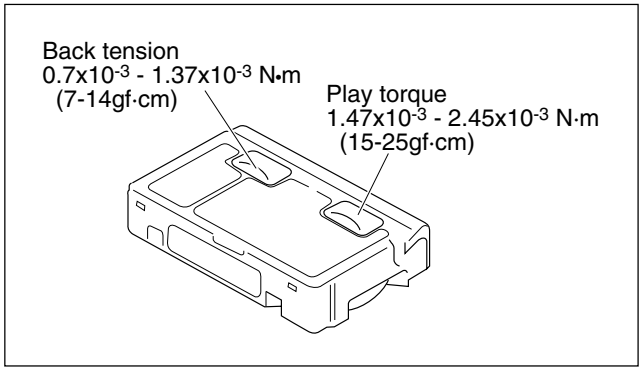


Fig. 2-4-1 Cassette torque meter

2.4.2 Tape pattern

1. Remove the Cover (JIG) shwon on Fig. 2-6-1 (Page 2-10).
2. Connect the jig connector cable to CN25 on the MAIN board as shwon on Fig. 2-6-1 (Page 2-10).
3. Observe signal at V. TP FM with external trigger from V. FF on the jig connector cable.
4. Playback the SP stairstep signal of the alignment tape and maximize the FM waveform by the tracking button.
5. Set the tracking control to the center position by simultaneously pressing the tracking (-) and (+) buttons and maximize the FM waveform by the tracking button.
6. If the observed FM waveform is not flat, adjust the height of the supply of take-up guide roller with the roller driver.

   Note: *To prevent the tape from damage, turn the guide rollers slowly.*
7. By operating the tracking button (both in + and – directions) in the manual tracking mode, vary the output level of the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape.
8. When the FM waveform breaks in the level varying process, subtly adjust the height of guide rollers at every breaking point so that the waveform varies as flat as possible.
   Repeat the above steps 6. and 7. several times to confirm that the waveform is flat as a whole.
9. Playback the SP stairstep signal of alighment tape and adjust the tracking control to maximize the FM waveform, confirm that FM waveform variation is always flat.
10. Record the signal and play it back in both of the SP and LP modes, and confirm that the FM waveform is flat in both modes.

    Note: *Among the above-mentioned adjustment steps, the items of No.9 and No.10 are needed for the LP model only.*

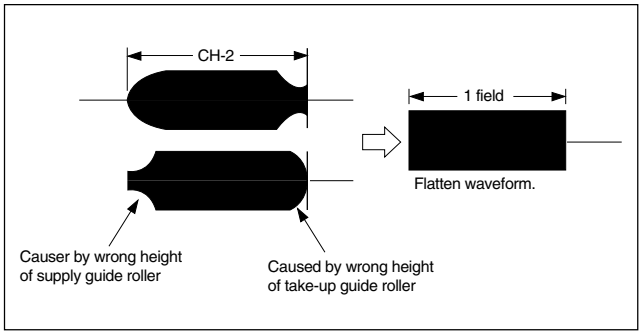


Fig. 2-4-2 FM waveform-1

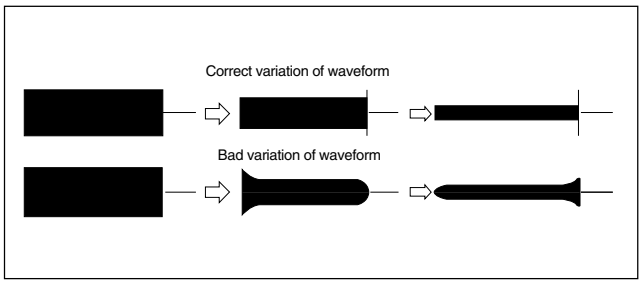


Fig. 2-4-3 FM waveform-2

(P)

11. Through the above steps, confirm that there occur no wrinkling and damage in the tape around the pinch roller and TU guide pole whenever the deck is in operation of Loading/Unloading, Search Rewind and at mode change from Search Rewind to play mode. If wrinkling or damage in the tape occurs around the TU guide pole, adjust the angle (slant) of the A/C head to the tape. So that the tape normally runs along the lower flange of the guide pole.

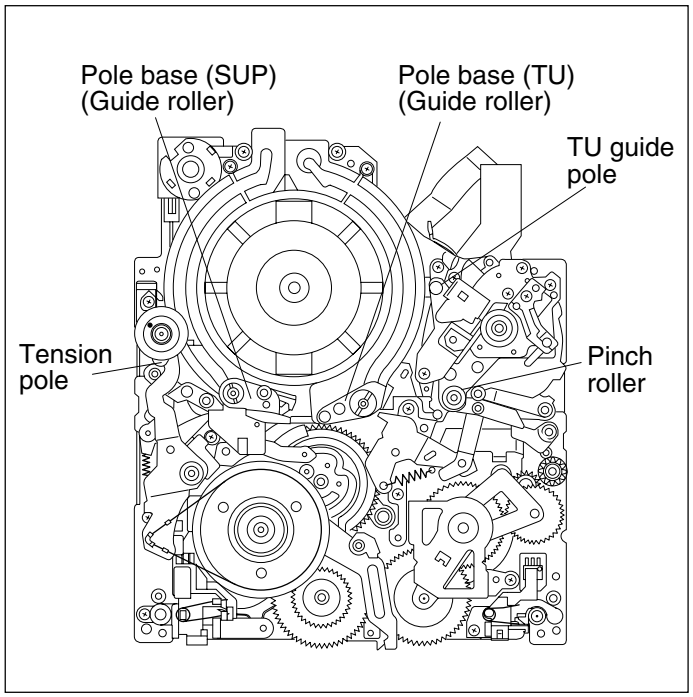


Fig. 2-4-4 Tape transport system

2.4.3 A/C head height & azimuth

1. Connect the jig connector cable to CN25 on the MAIN board.
2. Connect the channel-1 scope probe to the audio output and connect the channel-2 scope probe to PB CTL.
3. Playback the alignment tape.
4. Set the tracking to its center range by pressing the (+) and (–) tracking controls simultaneously.
5. Adjust screws Ⓐ , Ⓑ and Ⓒ approximately 45 degrees in the same direction to obtain maximum audio output and CTL signal levels.
6. As a final fine adjustment, adjust screw Ⓑ for minimum signal level fluctuation and screw Ⓒ for maximum output signal level.

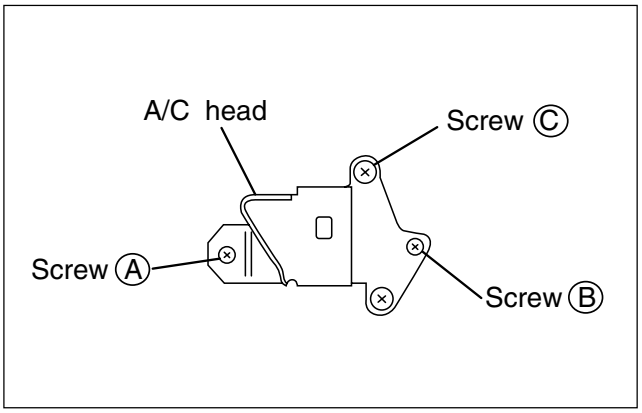


Fig. 2-4-5 A/C head

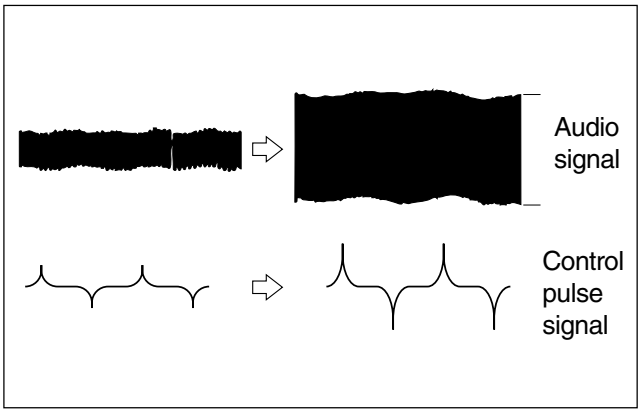


Fig. 2-4-6 Audio and CTL signal

2.4.4 Phase of control head (X value)

1. Connect the jig connector cable to CN25 on the MAIN board.
2. Playback the SP stairstep signal of the alignment tape and observe signal at V.TP FM with external trigger from V.FF on the jig connector cable.
3. Operate the tracking button in the center and manual tracking mode by pressing the tracking (+) and (–) buttons and confirm that the FM output level is maximum at the center position as shown in Fig. 2-4-8.
4. If necessary, slightly loosen the setscrews Ⓓ and Ⓔ and insert the Tweezers into the notch and guide hole to move the A/C head fully in the direction of the capstan to the extent.
5. Gradually move the A/C head toward the drum to find the position where the FM output level maximum for the first time (a' – b' in Fig. 2-4-8).
6. Fine adjust the phase of the A/C head and tighten the screws Ⓓ and Ⓔ at the point a.

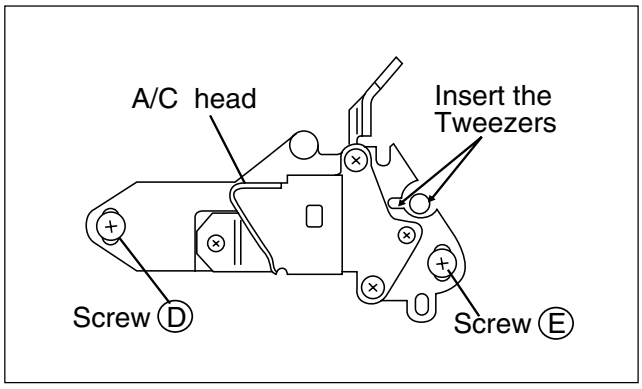


Fig. 2-4-7 Phase of control head

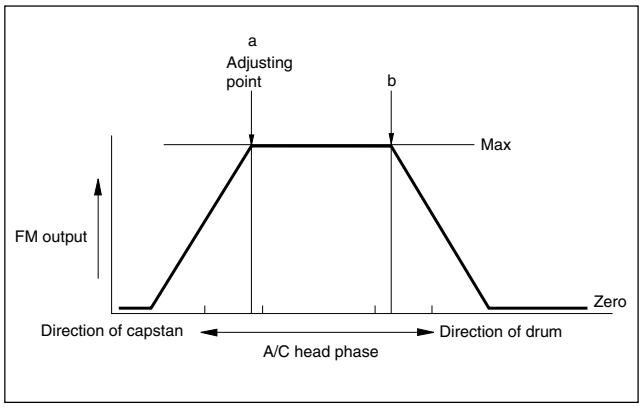


Fig. 2-4-8 Phase adjustment point of control head

2.5 REMARKS

2.5.1 Cleaning

1. For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth or Kimwipe with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.
   Note: Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.
2. For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
3. After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.5.2 Applying oil and grease

1. Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
2. For parts and points to apply oil and grease, refer to the exploded view of the mechanism assembly (M3).
   Table 2-5-1pecifies oil and grease to be used.
3. When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Name	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

Table 2-5-1 Specific oil and grease to be used

2.5.3 Checkup

After replacement of the supply reel disk and tension band, make sure to inspect back tension according to the adjustment procedure of MECHANISM ADJUSTMENT section.

2.6 JIG CONNECTOR CABLE CONNECTION

Remove the cover (JIG).

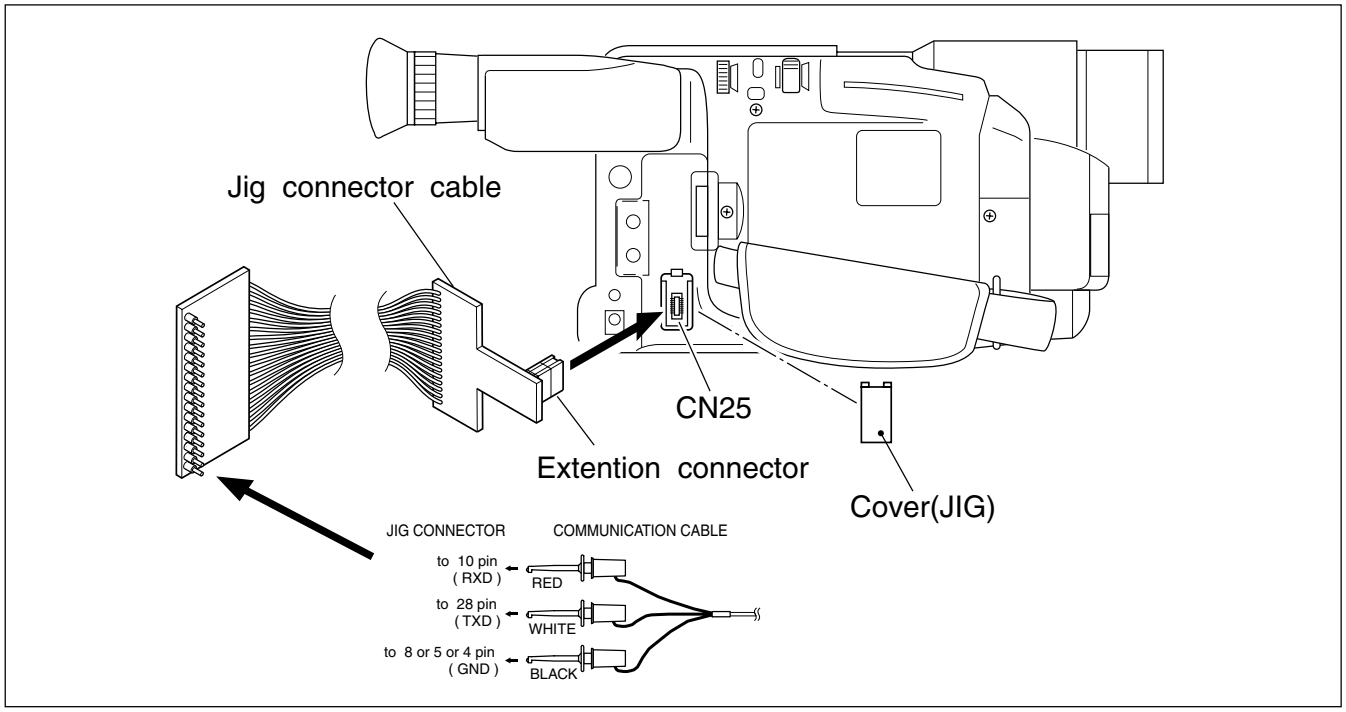


Fig. 2-6-1 Jig connector cable connection

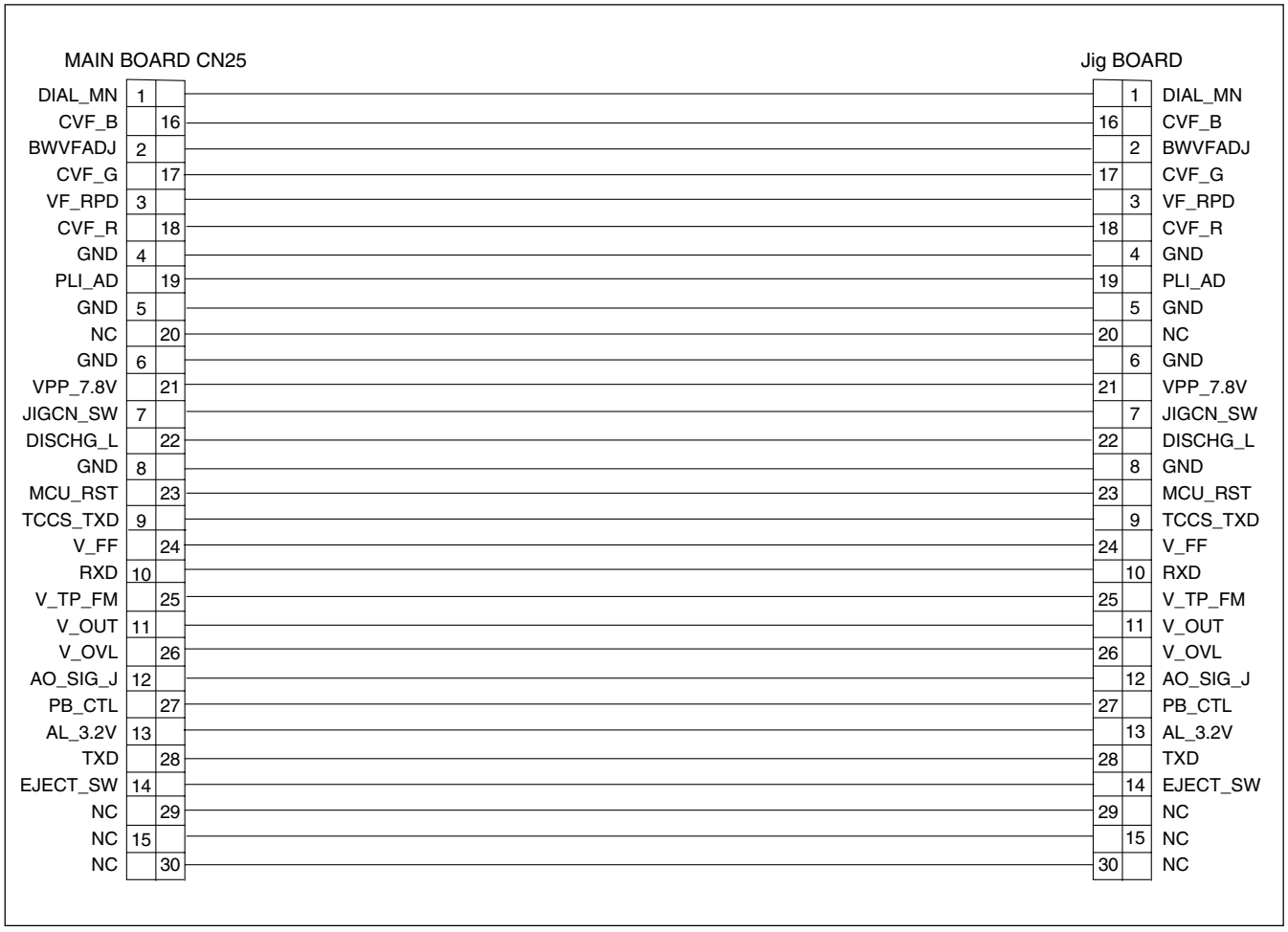


Fig. 2-6-2 Jig connector cable schematic diagram

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 ELECTRICAL ADJUSTMENT

3.1.1 PREPARATION

1. Precaution

This model does not contain adjustment controls (VR). General deck system, camera system and monitor system adjustment are not required. However, if MAIN board and MONITOR board need replacement, please use original E 2 PROM on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required (Refer to sec. 3.1.1- 4). Please contact to JVC Service for detaile information.

- OP block
- EEP ROM (IC102 of MAIN board)
- MONITOR

In the event of malfunction with electrical circuits, trouble-shooting with the aid of proper test instruments most be done first, and then commence necessary repair, replace-ment and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between operation un it and DECK chassis.

2. Required test equipment

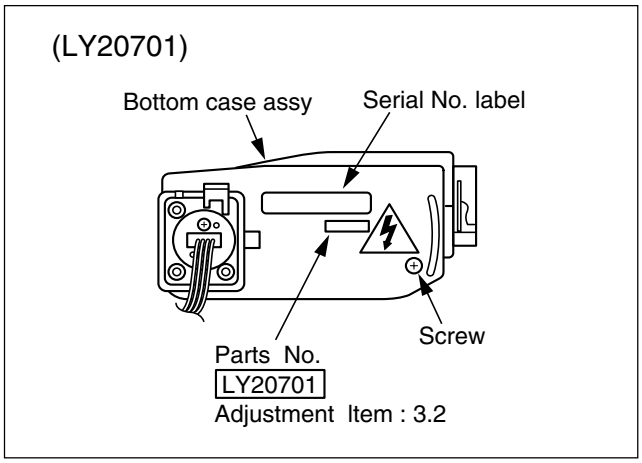
1. Color TV monitor.
2. AC power adapter
3. Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)
   * It is recommended to use one observable 300 MHz or higher frequency.
4. Digital voltmeter
5. Frequency counter (with threshold level adjuster)
6. Personal computer

3. Required adjustment tools

For detsails of special jigs necessary for adjustment, refer to page 1-2 and 1-3 of the Section 1.

4. Setup for E. VF section adjustment

Referring to “SEC. 1 DISASSEMBLY” and connect the E. VF WIRE to CN12 of the MAIN board.



Note:

- *This adjustmentalls into a special adjustment that requires a personal computer. For details, refer to “3.1.1 Preparation”.*

5. Connection for Service support system

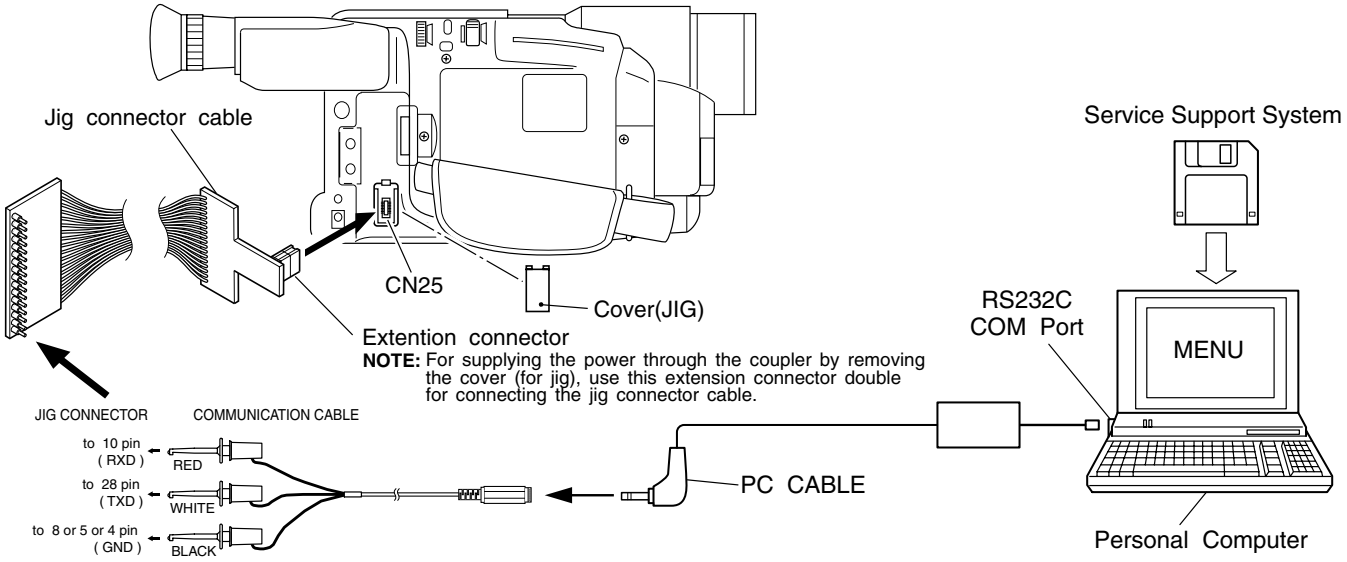

Jig connector cable
CN25
Cover(JIG)
Extention connector
NOTE: For supplying the power through the coupler by removing the cover (for jig), use this extension connector double for connecting the jig connector cable.
JIG CONNECTOR
COMMUNICATION CABLE
to 10 pin (RXD)
RED
to 28 pin (TXD)
WHITE
to 8 or 5 or 4 pin (GND)
BLACK
PC CABLE
Service Support System
RS232C COM Port
MENU
Personal Computer

Fig. 3-1-1 Connection for Service support system

3.2 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT

Notes:

- *Unless otherwise specified, all measurement points and adjustment parts are located on E. VF board.*
- *After adjustment or replacement of the deflection yoke or the centering magnet, fix it by the band as shown the figure below.*

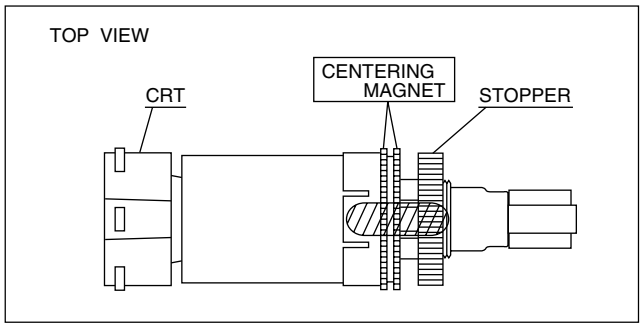


Fig. 3-2-1 E. VF

- *After adjustment is completed, compare the picture on the E. VF screen with the monitor TV.*

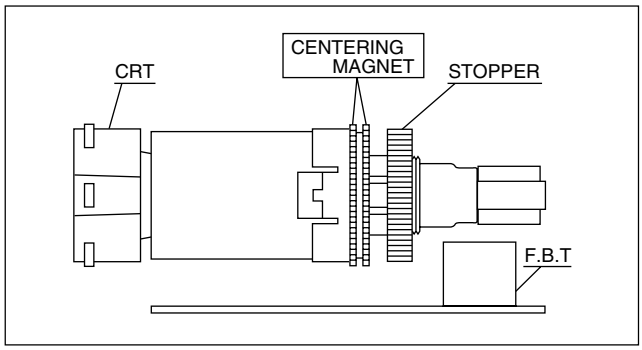


Fig. 3-2-2 E. VF

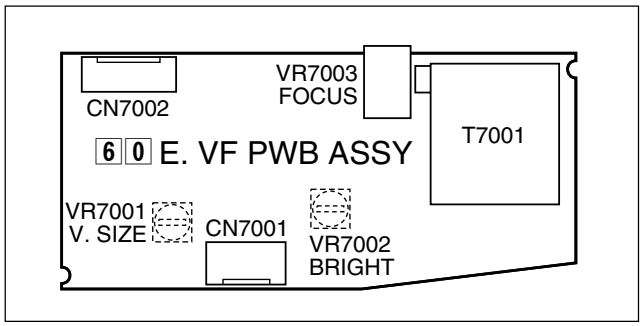


Fig. 3-2-3 E. VF board

3.2.1 Tilt

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Deflection yoke
Specification	• The picture is visible as same as monitor TV.

1) Put the deflection yoke to the most inner side of CRT neck first. Then fix the stopper temporary.
2) Adjust the tilt of picture on the E. VF screen by tilting the deflection yoke.
3) Fix the stopper completely.

3.2.2 Centering

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Centering magnet (CRT assy)
Specification	• The center of the E. VF screen

1) While observing the viewfinder screen, adjust the centering magnet to locate the stairstep in the center of the view-finder screen.

3.2.3 Vertical scanning

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7001 (V. SIZE)
Specification	• Normal picture amplitude

1) Observing the viewfinder screen, adjust VR7001 for normal picture amplitude.

3.2.4 Brightness

Subject	• –
Mode	• EE • Lens closed
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7002 (BRIGHT)
Specification	• The CRT raster is just barely visible

1) Close the lens with the cap and adjust VR7002 so that the raster of the CRT is just visible in the E. VF.

3.2.5 Focus

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7003 (FOCUS)
Specification	• The center area is clear and defined

1) While observing the viewfinder screen, adjust VR7003 so that the picture at the central area of the screen is clear and defined.

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

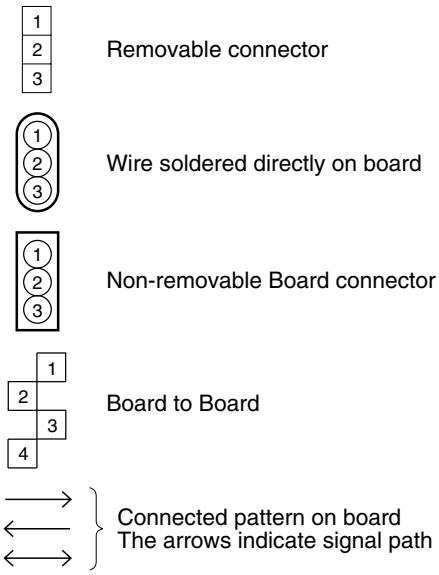
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

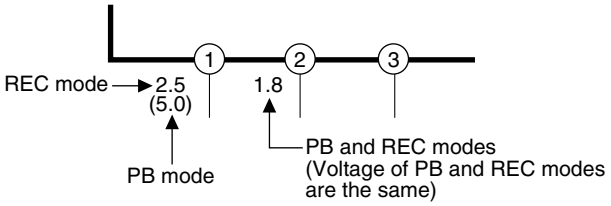
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

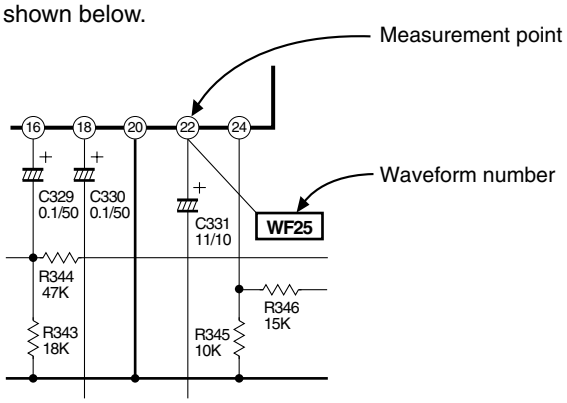
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



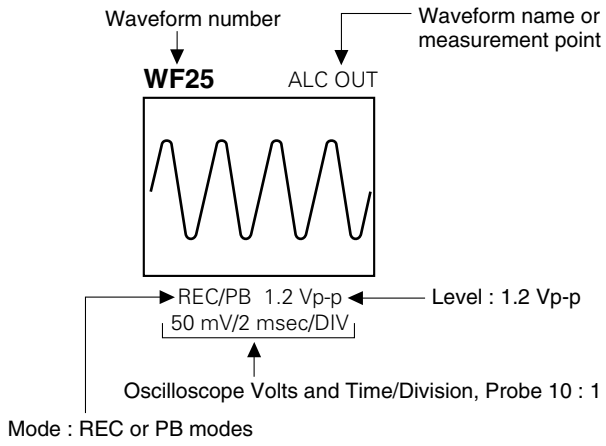
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

Playback signal path

Playback and recording signal path

Recording signal path
(including E-E signal path)

Capstan servo path

Drum servo path

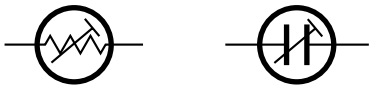
(Example)

R-Y Playback R-Y signal path

Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

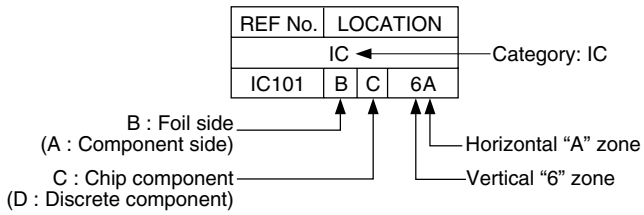
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.

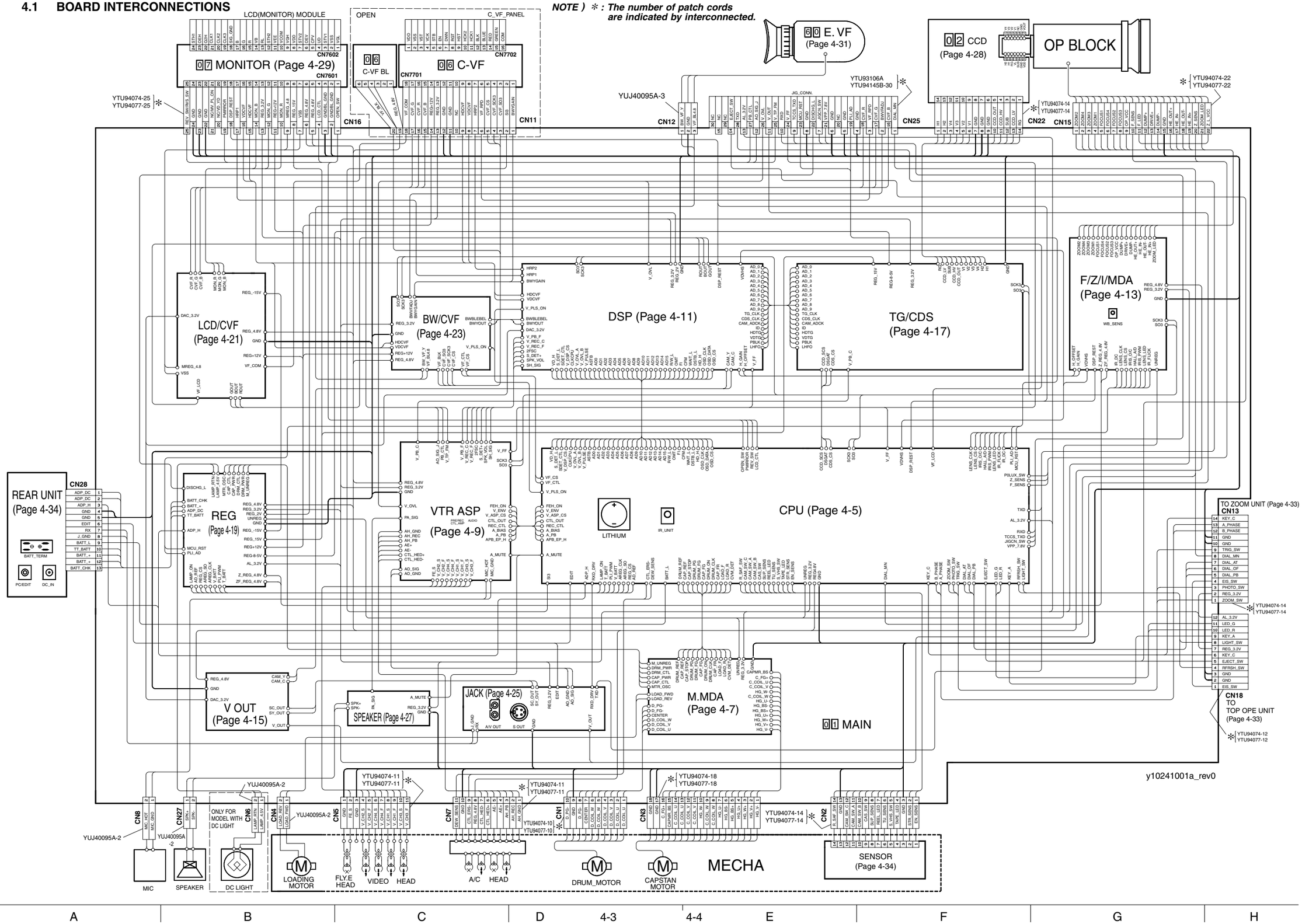


Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

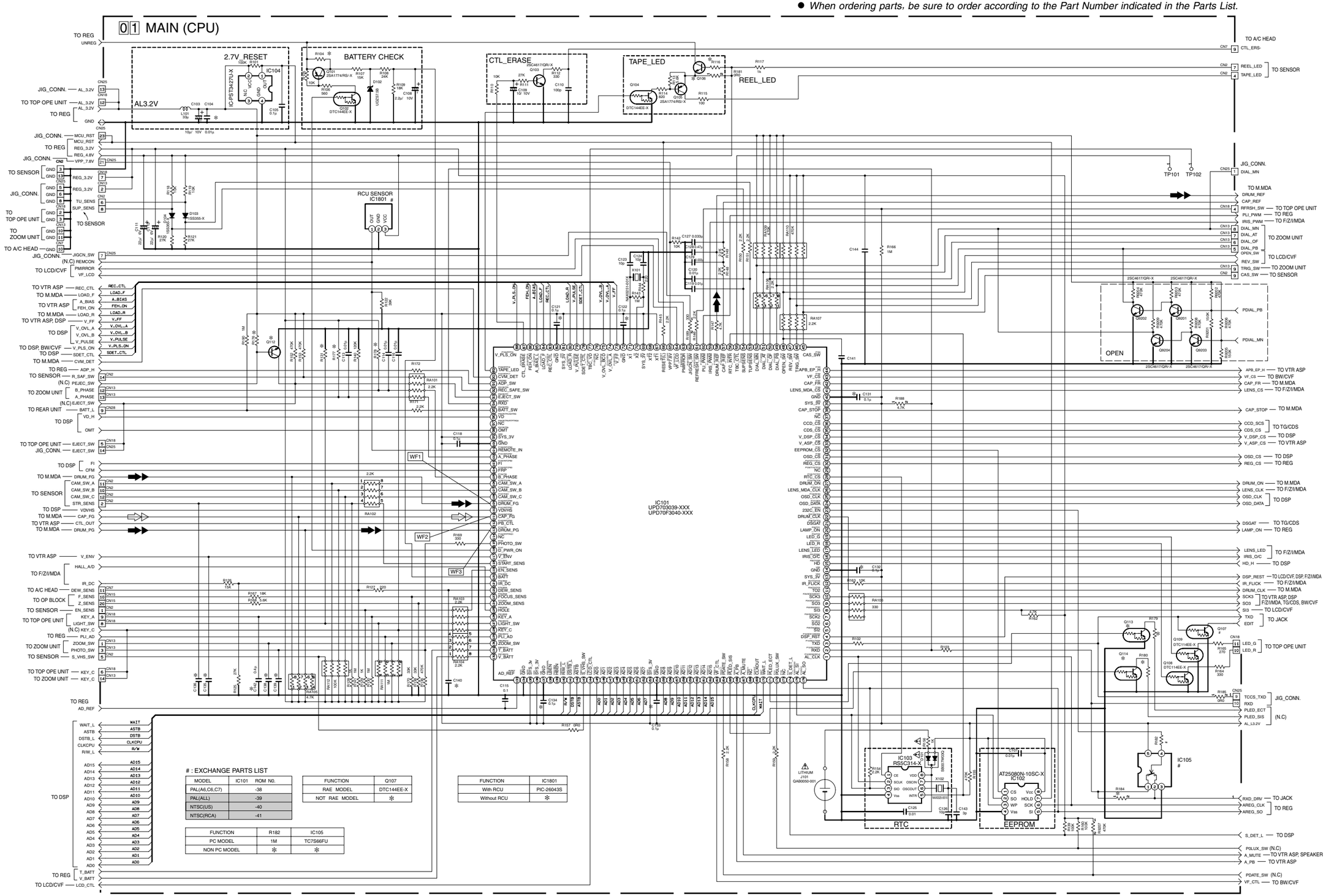
NOTE) ✻ : The number of patch cords are indicated by interconnected.



A B C D 4-3 4-4 E F G H

4.2 CPU SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



: EXCHANGE PARTS LIST

MODEL	IC101 ROM NO.
PAL(A6,C6,C7)	-38
PAL(ALL)	-39
NTSC(US)	-40
NTSC(RCA)	-41

FUNCTION	Q107
RAE MODEL	DTC144EE-X
NOT RAE MODEL	✻

FUNCTION	IC1801
With RCU	PIC-2604S
Without RCU	✻

FUNCTION	R182	IC105
PC MODEL	1M	TC7S66FU
NON PC MODEL	✻	✻

NOTES : 1. The parts with marked (✻) is not used.
2. For CPU waveforms, please refer to page 4-45.

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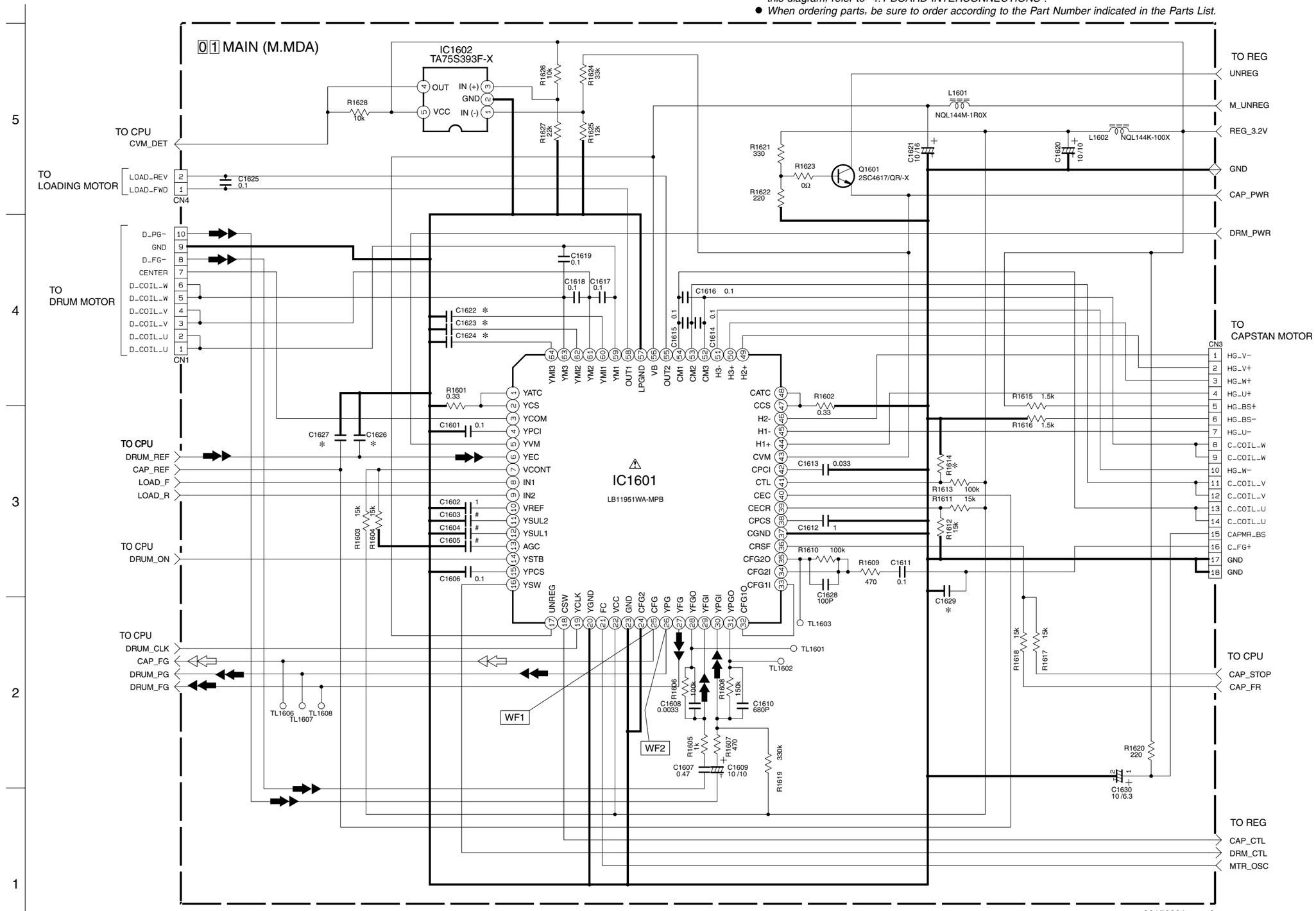
4.3 M.MDA SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



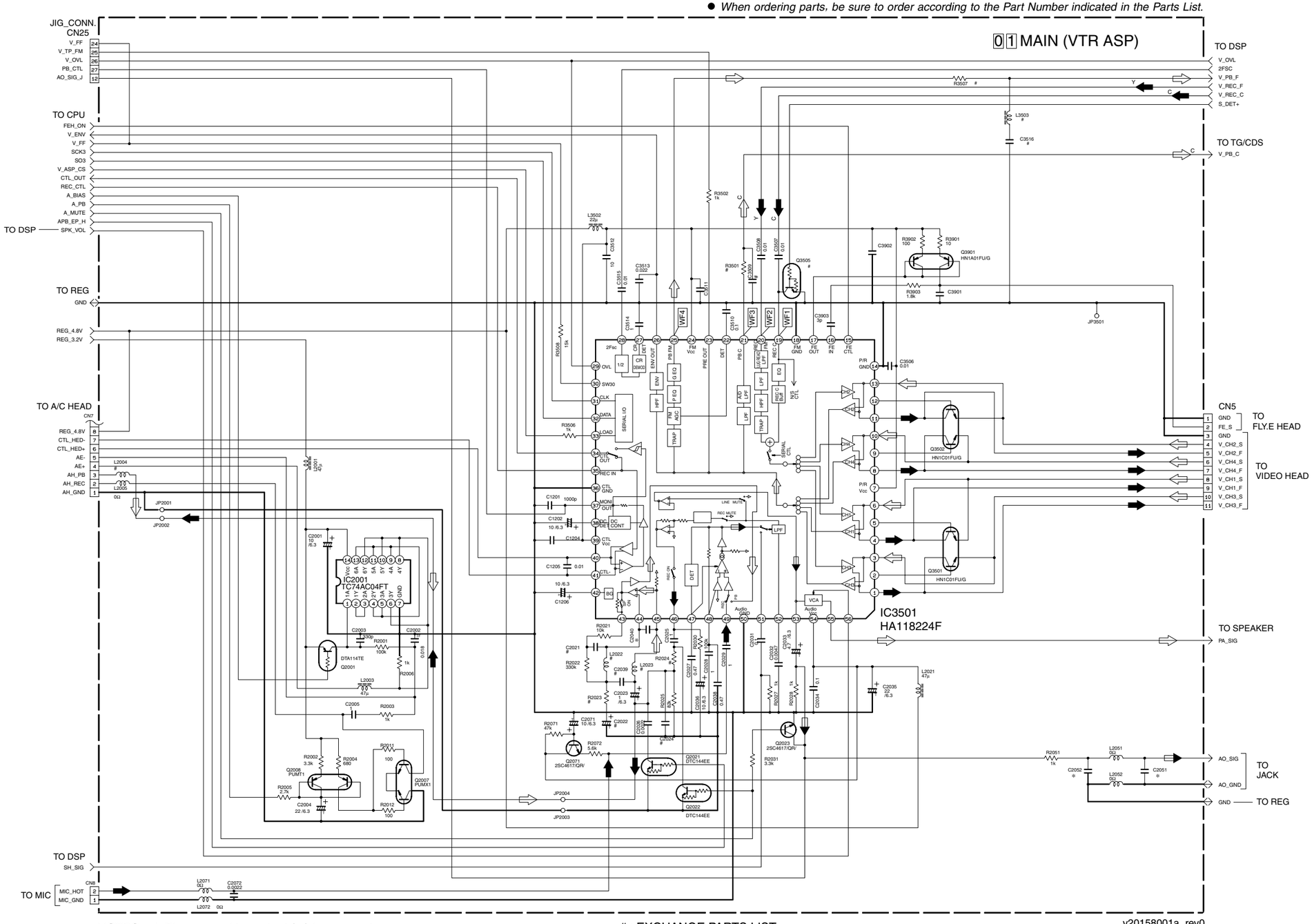
NOTES : 1. The parts with marked (*) is not used.
2. For M.MDA waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

	NTSC	PAL
C1603	0.0047	0.01
C1604	0.0047	0.01
C1605	0.033	0.01

4.4 VTR ASP SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTES : 1. The parts with marked (✻) is not used.
2. For VTR ASP waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

[VIDEO]

	VHS MODEL	SVHS MODEL
Q3505	✻	DTC144 EE

	NTSC	PAL
R3507	0	100
L3503	✻	5.6
C3516	✻	10p
R3501	0	220
C3509	✻	220p

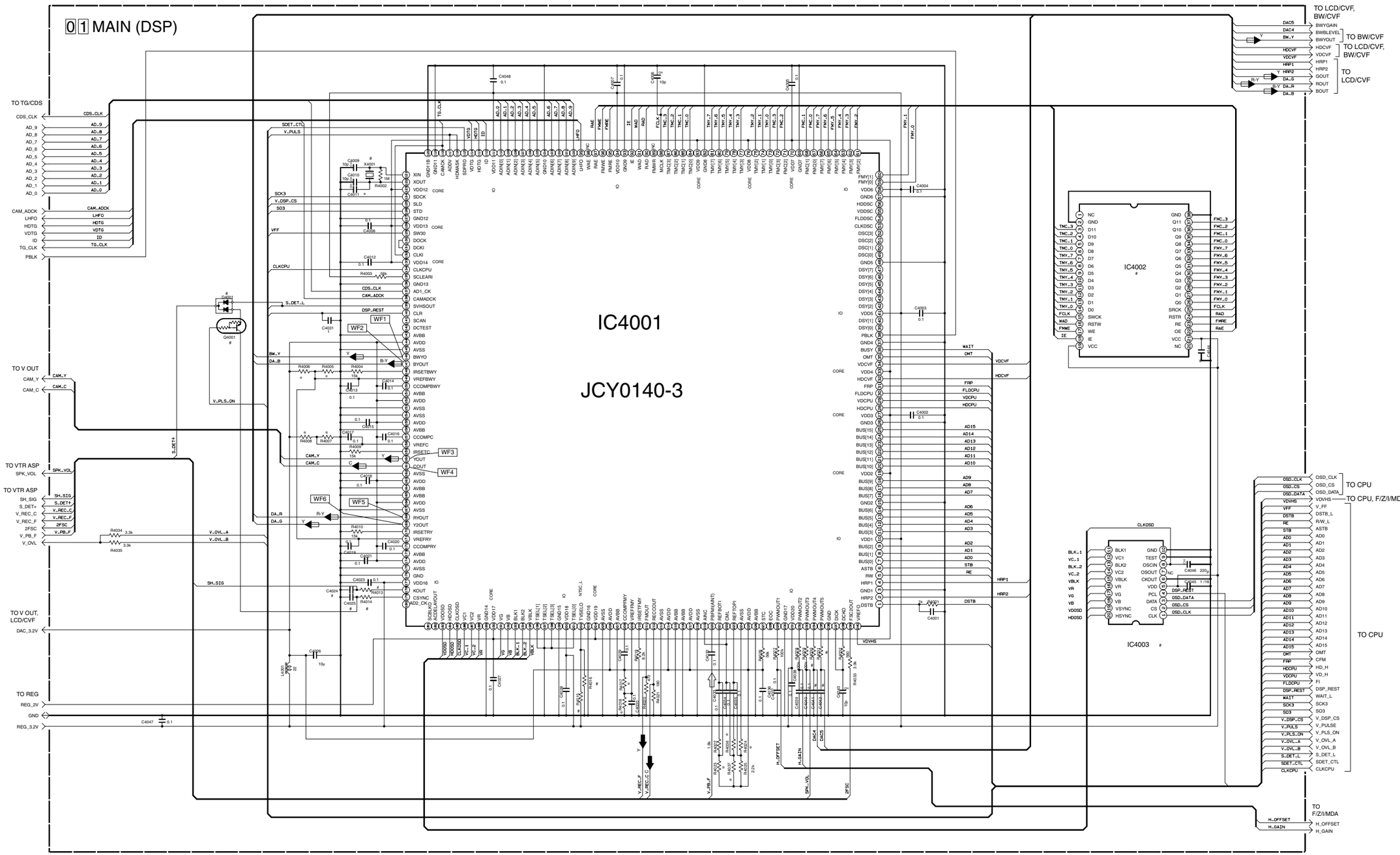
[AUDIO]

	NTSC	PAL
R2023	150	82
R2024	13k	18k
C2021	0.0068	0.01
C2022	10 μ /6.3	15 μ /6.3
C2024	0.0012	0.001

	NTSC	PAL
L2004	0 Ω	NQR0403-003X
L2022	0 Ω	NQR0403-003X
L2023	0 Ω	NQR0406-003X
C2039	✻	33 p

4.5 DSP SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTES : 1. The parts with marked (✻) is not used.
2. For DSP waveforms, please refer to page 4-45.

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: EXCHANGE PARTS LIST

	X4001	R4015	R4016
NTSC	QAX0709-001	✻	0
PAL	QAX0708-001	0	✻

	IC4002	C4044
MEMORY MODEL	Z4C2973-32-X	1 µ
NON MEMORY MODEL	✻	✻

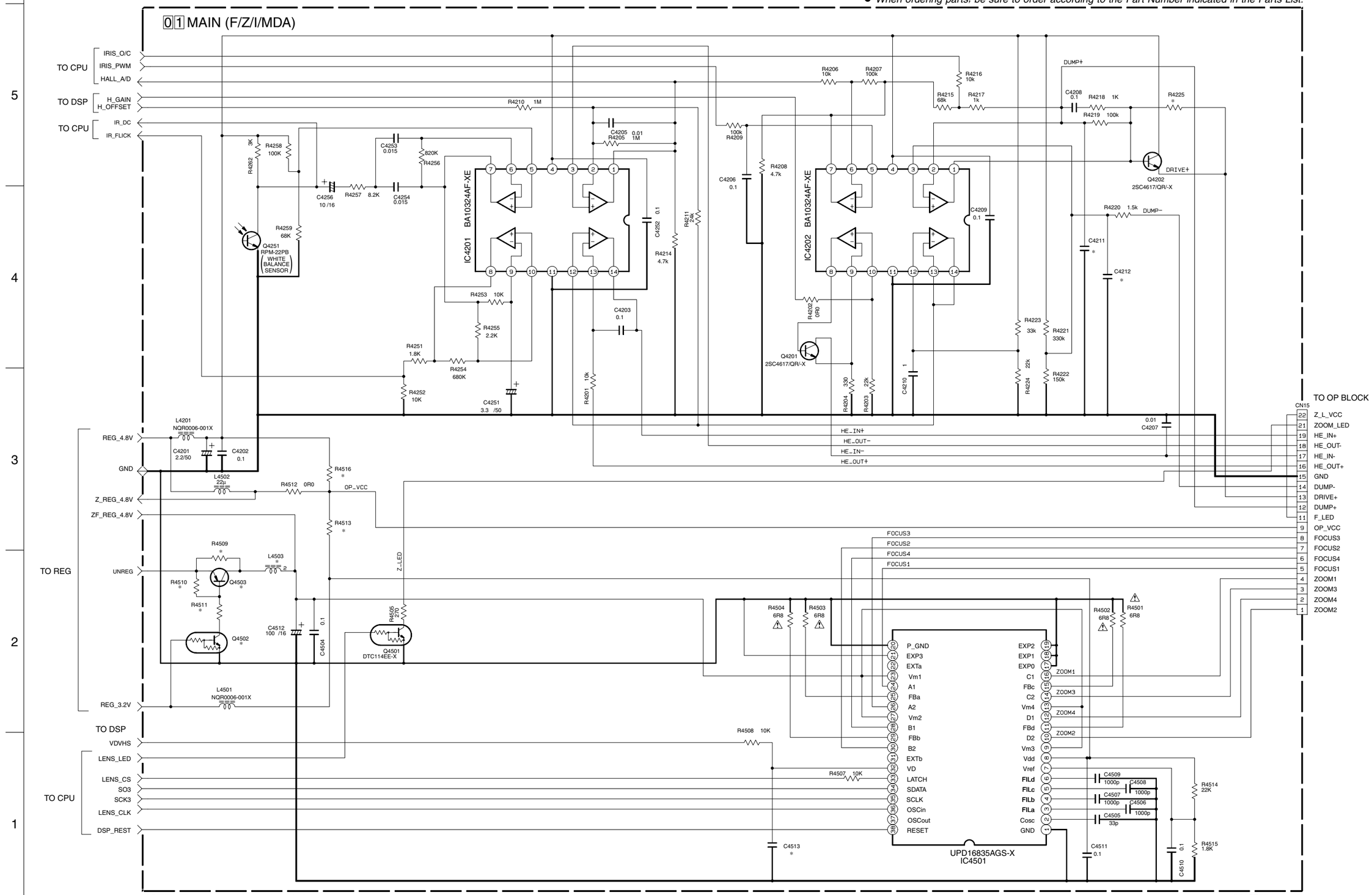
	R4013	C4024
PB SNAP SHOT	1k	0.1µ
NON PB SNAP SHOT	✻	✻

	R4014	C4025	Q4001	D4001
VHS MODEL	✻	✻	✻	✻
SVHS MODEL	10k	0.1	DTC144EE-X	DAN222-X

	R4030	C4041	R4031	C4042	IC4003
JVC C-VF MODEL	✻	✻	1k	1 µ	µ PD6467GR-512-X
JVC OTHER MODEL	✻	✻	✻	✻	↑
PANASONIC MODEL	1k	1 µ	1k	1 µ	µ PD6467GR-508-X

4.6 F/Z/I/MDA SCHEMATIC DIAGRAM

NOTES : ● For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
● When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



NOTE : The parts with marked (*) is not used.

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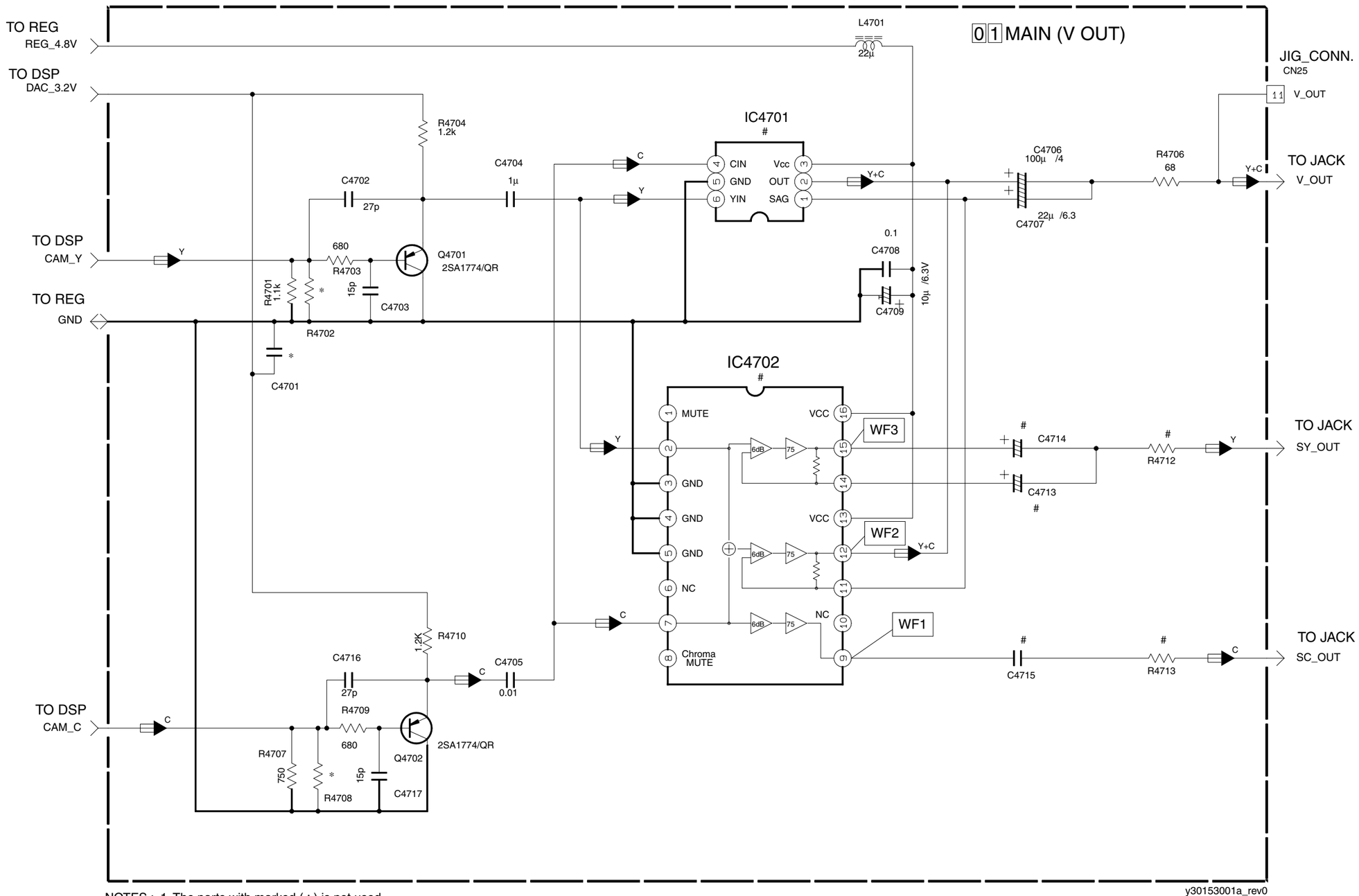
4.7 V OUT SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



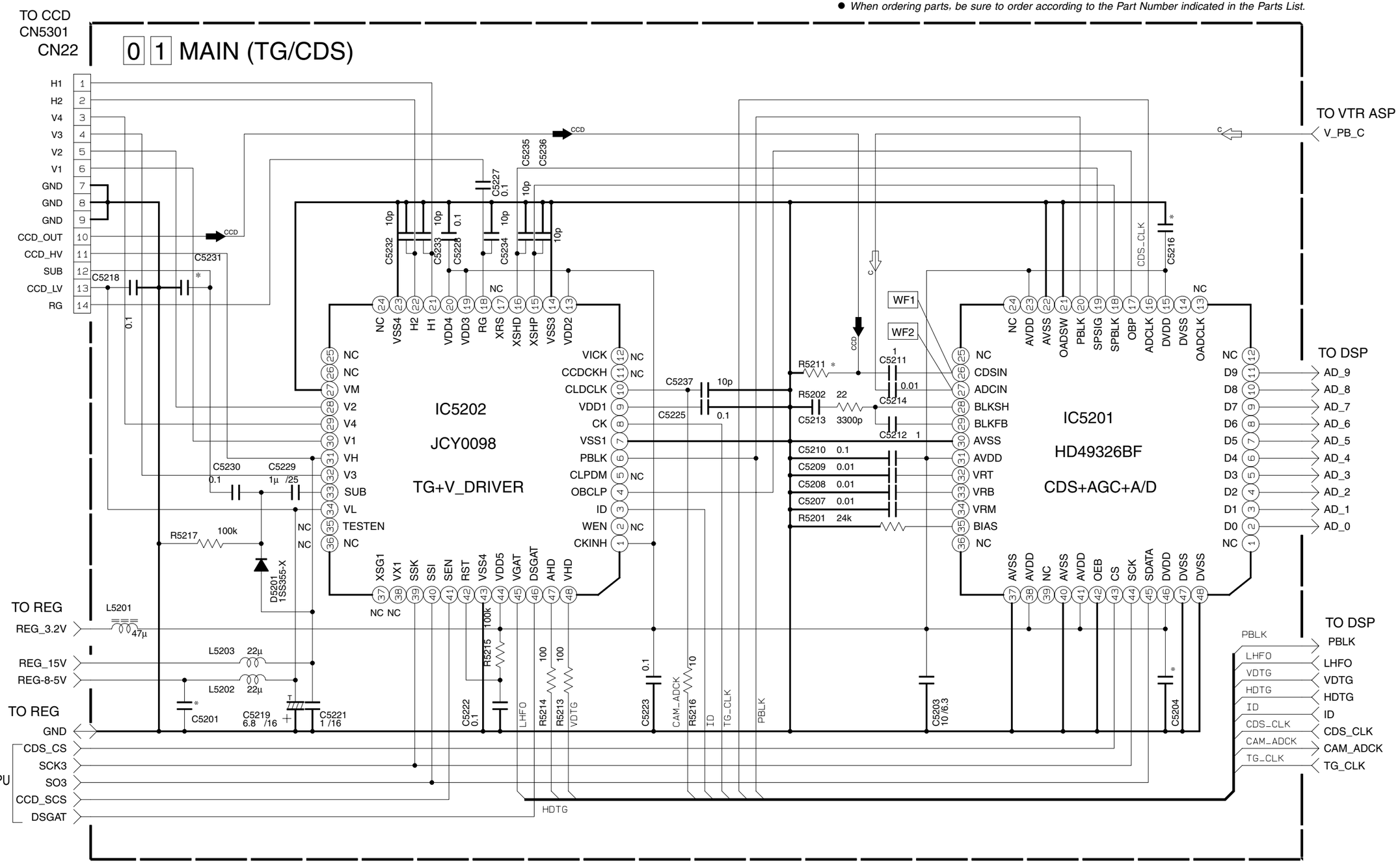
NOTES : 1. The parts with marked (*) is not used.
2. For V OUT waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

	IC4701	IC4702	R4712	R4713	C4713	C4714	C4715
VHS MODEL	MM1512XN	*	*	*	*	*	*
SVHS MODEL	*	BA7665FS	68	68	22/6.3	100/4	0.01

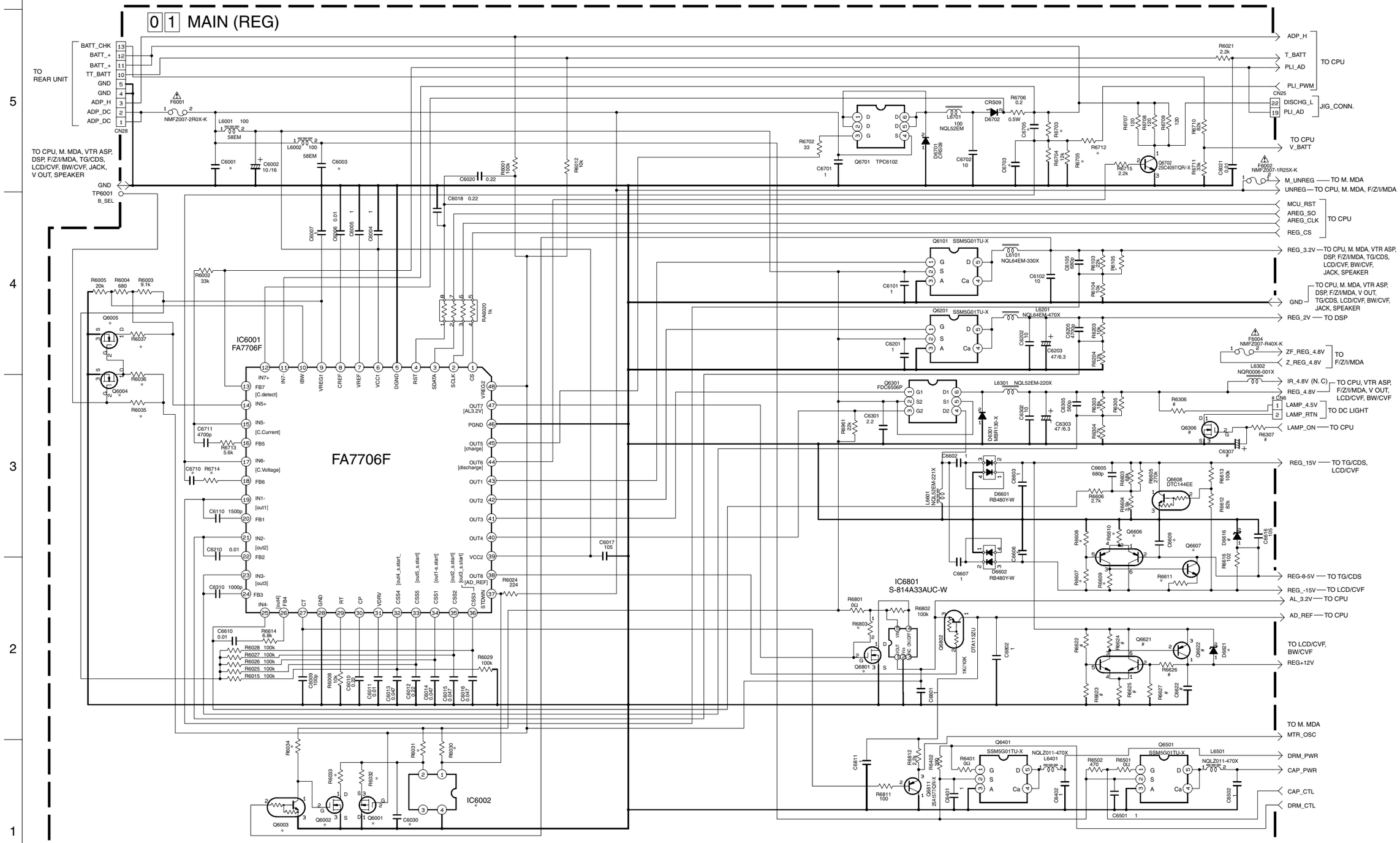
4.8 TG/CDS SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



4.9 REG SCHEMATIC DIAGRAM

NOTES :
- *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
- *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTE : The parts with marked (*) is not used.

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: EXCHANGE PARTS LIST

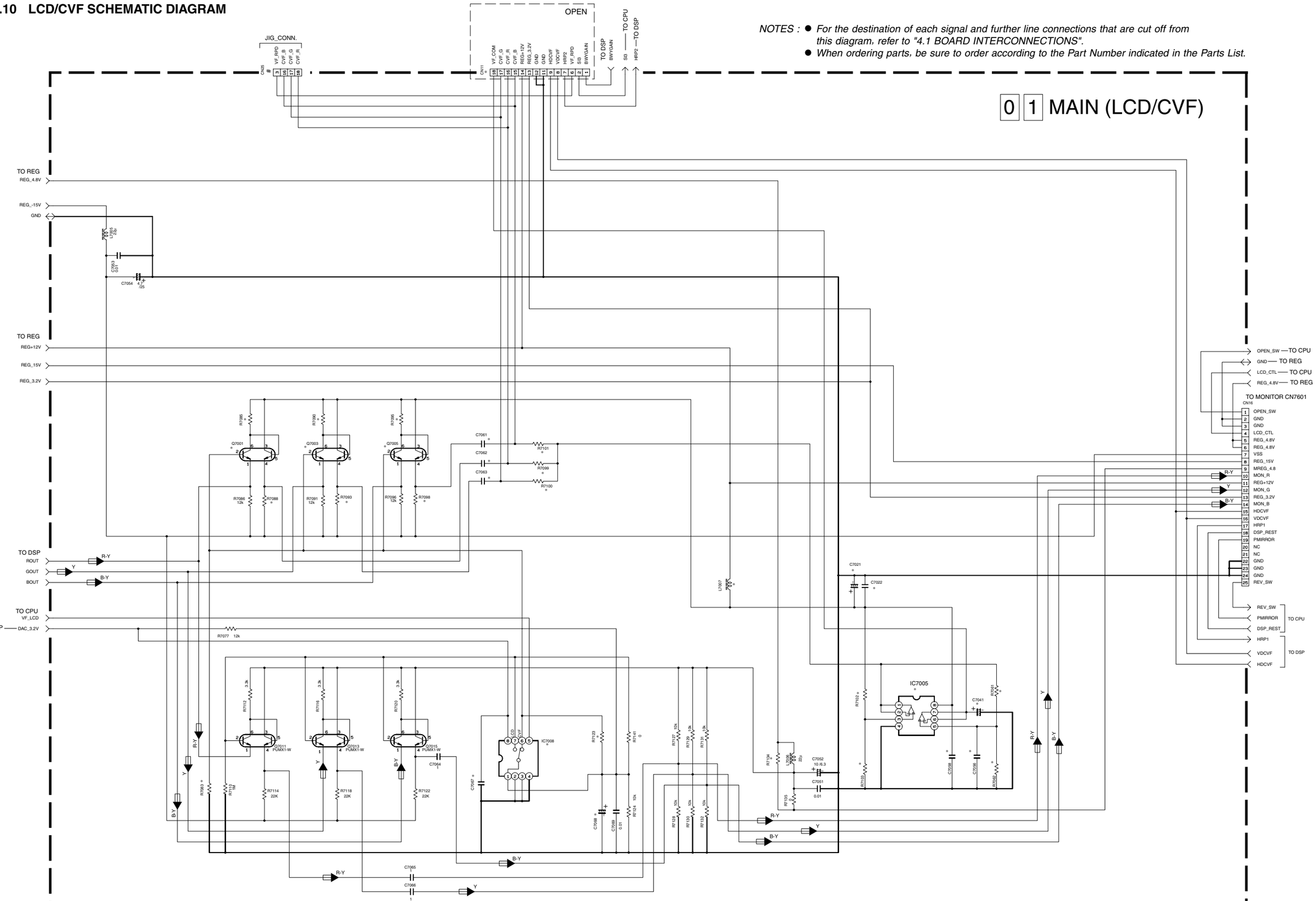
	D6616
NTSC	UDZS8.2B-X
PAL	UDZS7.5B-X

		R6306	R6307	Q6306	C6307	CN6
Light	YES	0.47	100k	SSM3K02F	10µ/16	QGA1201C2-02X
Light	NO	*	*	*	*	*

	R6622	R6623	R6624	R6625	R6626	R6627	Q6621	Q6622	C6622
JVC WB VF ONLY MODEL	*	*	*	*	*	*	*	*	*
JVC WB VF and 2.5LCD MODEL	*	*	*	*	*	*	*	*	*
JVC OTHER MODEL	100k	47k	27k	8.2k	27k	18k	HN1C01FU	2SA1577	1µ

4.10 LCD/CVF SCHEMATIC DIAGRAM

NOTES :
- *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
- *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTE : The parts with marked (✻) is not used.

: EXCHANGE PARTS LIST

	JVC MODEL	PANA MODEL
CN25	QGB0506L1-30X	✻

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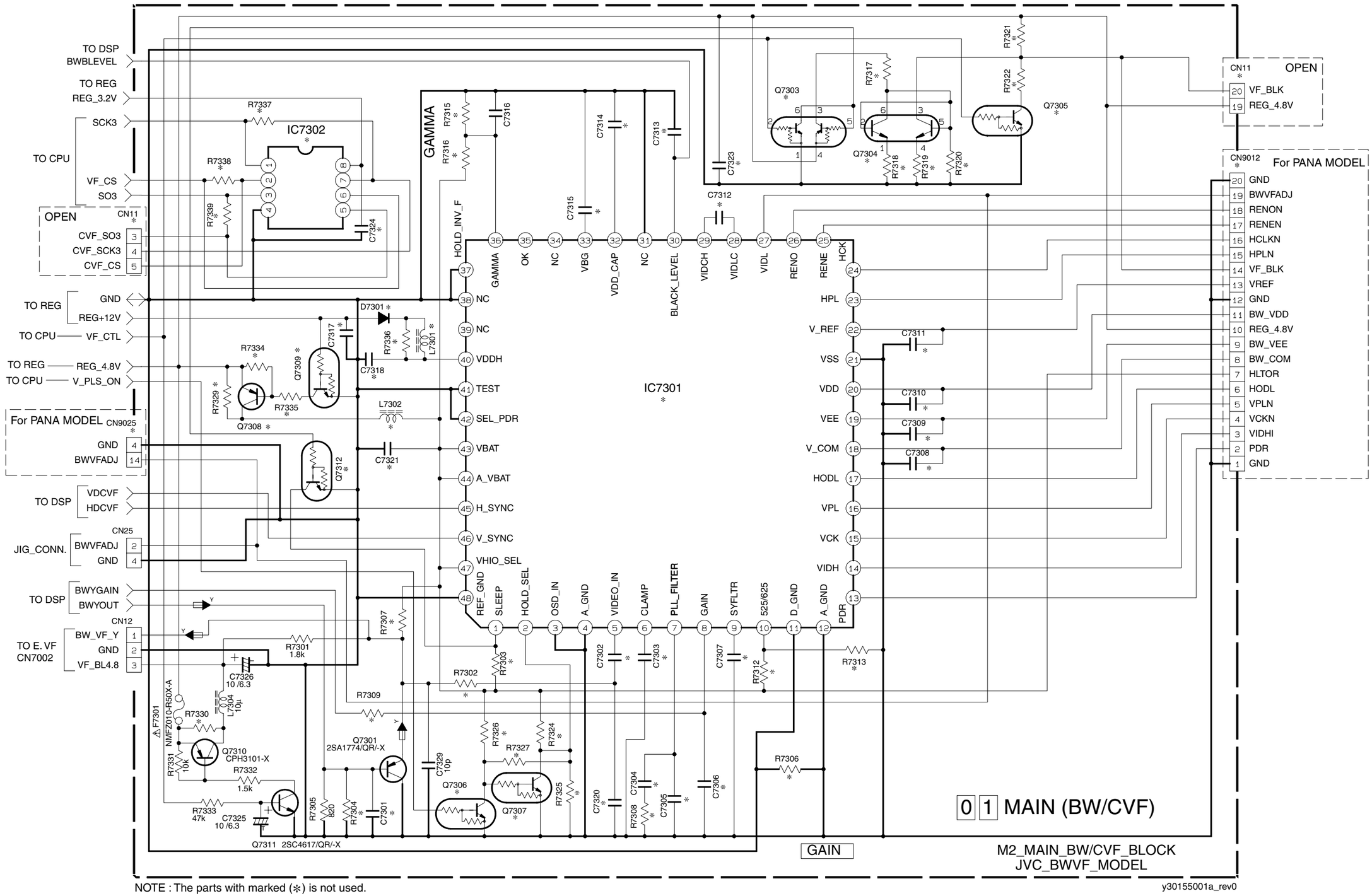
4.11 BW/CVF SCHEMATIC DIAGRAM

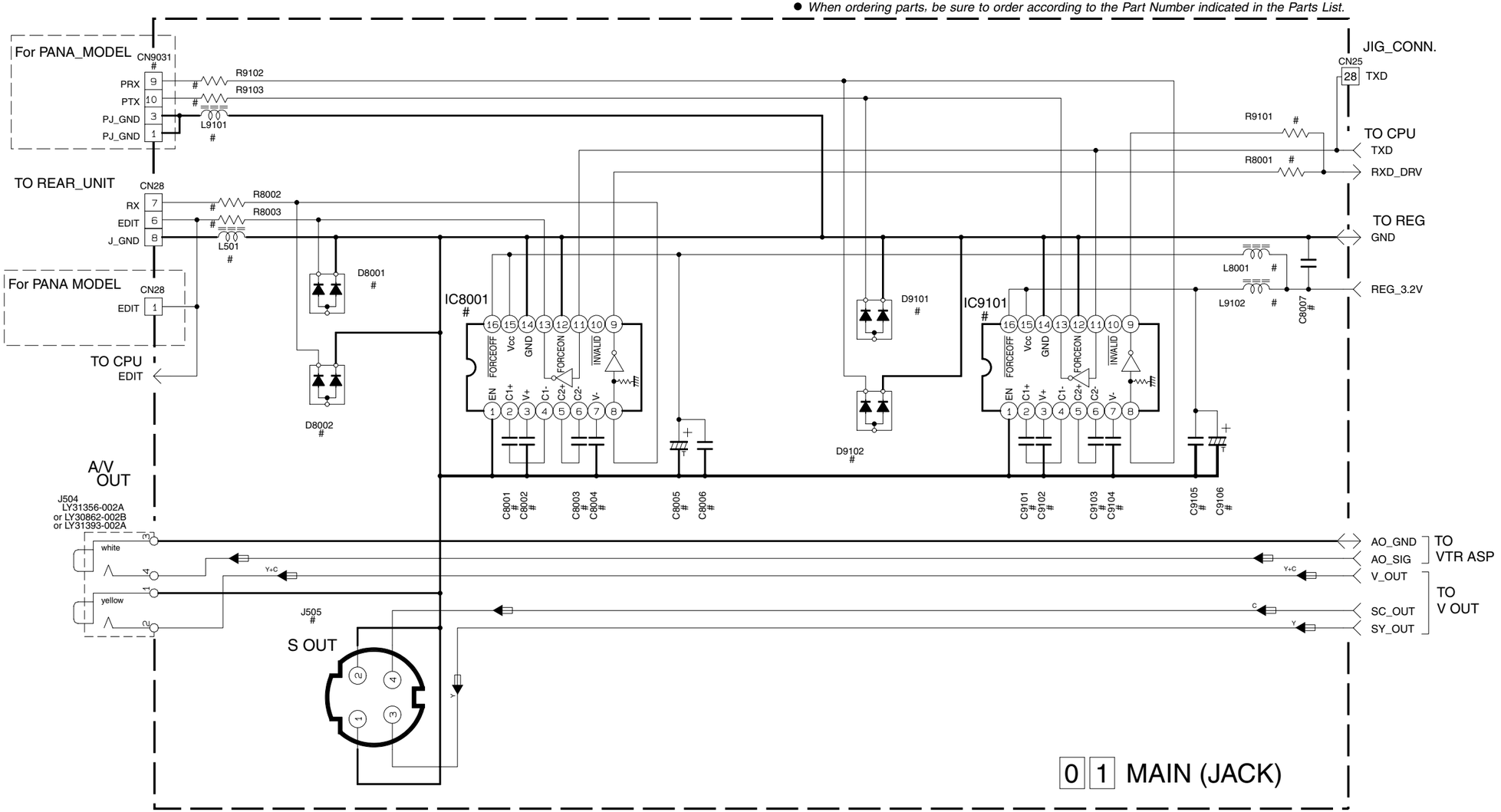
NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTE : The parts with marked (⁎) is not used.

4.12 JACK SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTE : The parts with marked (✻) is not used.

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Exchange Parts List

	JVC PC model	JVC NON PC model PANA model
IC8001	MAX3221CAE-X	✻
R8001	330	✻
R8002	0	✻
R8003	0	✻
C8001	0.1	✻
C8002	0.1	✻
C8003	0.1	✻
C8004	0.1	✻
C8005	10/6.3	✻
C8006	0.1	✻
C8007	✻	✻
D8001	EMZ6.8N-X	✻
D8002	EMZ6.8N-X	✻
L8001	22 µ	✻

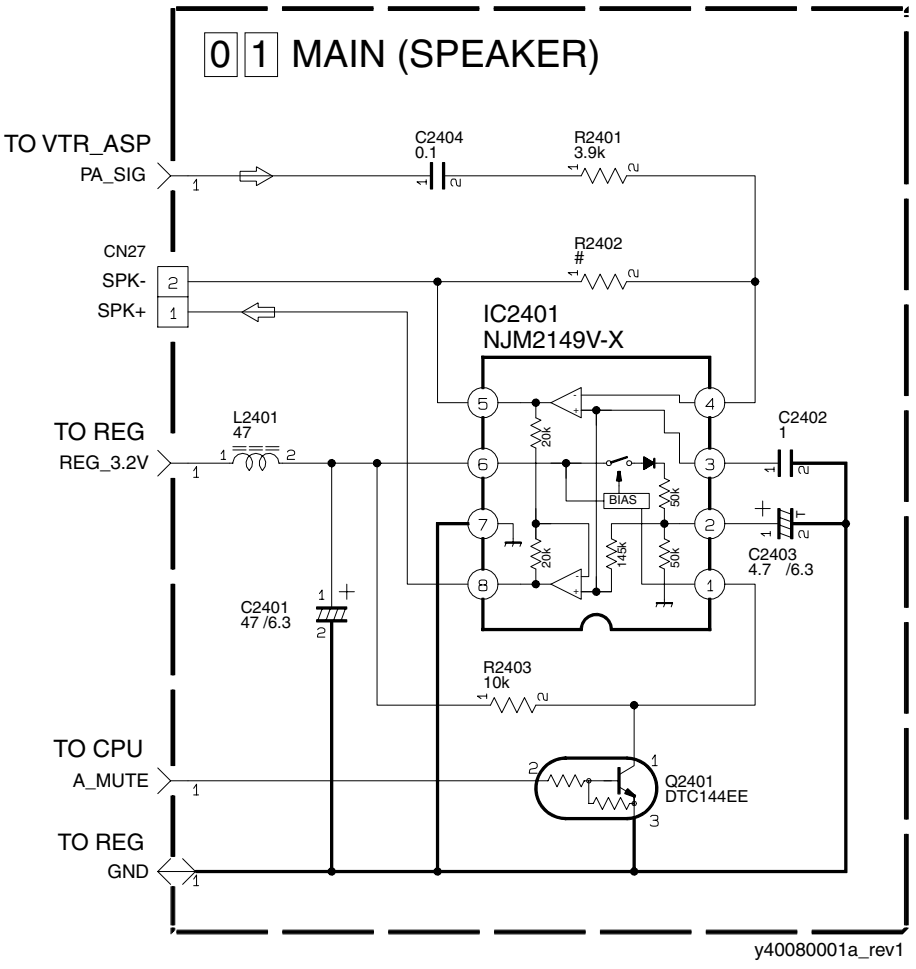
	PANA PC model	JVC model PANA NON PC model
IC9101	MAX3221CAE-X	✻
R9101	330	✻
R9102	0	✻
R9103	0	✻
C9101	0.1	✻
C9102	0.1	✻
C9103	0.1	✻
C9104	0.1	✻
C9105	10/6.3	✻
C9106	0.1	✻
D9101	EMZ6.8N-X	✻
D9102	EMZ6.8N-X	✻
L9102	22 µ	✻

	S model	NON S model
J505	QND0068-001 or QND0078-001 or QND0087-001	✻

	JVC model with EDIT/DIGITAL terminal	JVC model without EDIT/DIGITAL terminal	PANA model
L501	0Ω	✻	
L9101	✻	✻	0
CN9031	✻	✻	

4.13 SPEAKER SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



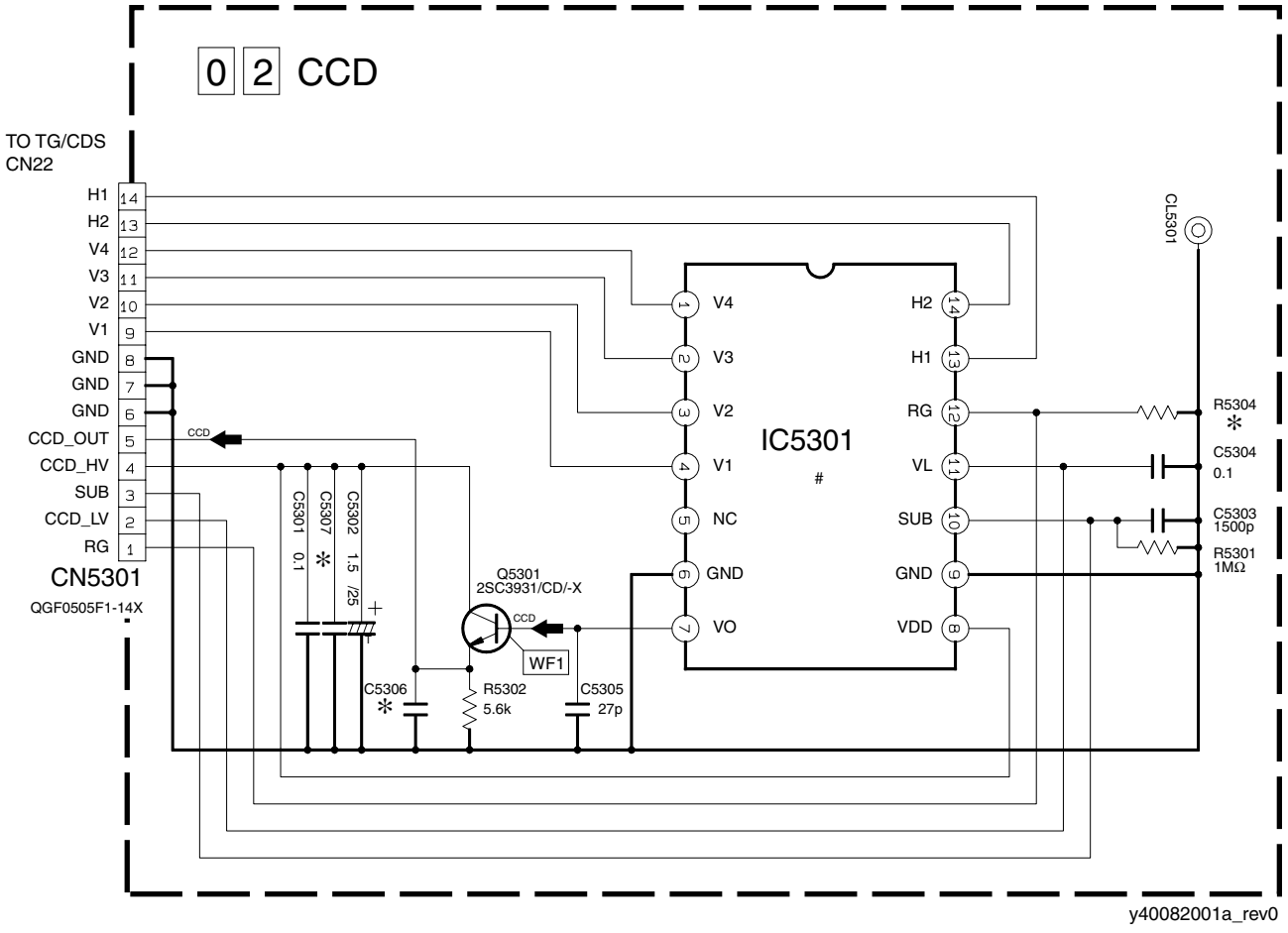
: EXCHANGE PARTS LIST

	JVC	PANA /RCA
R2402	3.3k	2.2k

4.14 CCD SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

● *IC5301 is incorporated in the CCD base assembly. When IC5301 needs replacement, replace the CCD base assembly in whole because it cannot be replaced alone.*



NOTES : 1. The parts with marked (✻) is not used.
2. For CCD waveform, please refer to page 4-45.

MODEL	IC5301	CCD_HV	CCD_LV
NTSC_L	MN39117FT	15V	-8V
PAL_L	ICX297AKA-L	15V	-7.5V

4.15 MONITOR SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

0 7 MONITOR

: EXCHANGE PARTS LIST

	R7618	R7619
NTSC	✻	NRSA63J-0R0X
PAL	NRSA63J-0R0X	✻

	IC7603	R7642	C7627	R7602	L7603	L7604	R7637	R7640	R7641	R7645	R7607
Type_2.5	SN74AHC1G04K-X	✻	NCB31EK-103X	NRVA63D-752X	✻	NQL38DK-220X	NRSA63J-223X	NRSA02J-182X	NRSA02J-331X	NRSA63J-682X	NRSA63J-822X
Type_3.0	✻	NRSA63J-0R0X	✻	NRVA63D-432X	NQL38DK-220X	✻	NRSA63J-682X	NRSA02J-122X	NRSA02J-821X	NRSA63J-123X	NRSA63J-153X
Type_3.5	✻	NRSA63J-0R0X	✻	NRVA63D-432X	NQL38DK-220X	✻	NRSA63J-682X	NRSA02J-122X	NRSA02J-821X	NRSA63J-123X	NRSA63J-153X

	C7623	R7643	R7644	C7630	R7647	R7648	Q7607	R7649	R7650	R7646	R7622
Type_2.5	NCB31EK-682X	✻	✻	✻	✻	NRSA63J-103X	DTC144EE-X	✻	NRSA63J-103X	NRSA63J-392X	✻
Type_3.0	✻	NRSA63J-123X	NRSA63J-123X	NCB31EK-103X	NRSA63J-0R0X	✻	✻	NRSA63J-333X	✻	NRSA63J-222X	✻
Type_3.5	✻	NRSA63J-123X	NRSA63J-123X	NCB31EK-103X	✻	NRSA63J-103X	DTC144EE-X	NRSA63J-333X	✻	NRSA63J-222X	NRSA63J-0R0X

NOTE : The parts with marked (✻) is not used.

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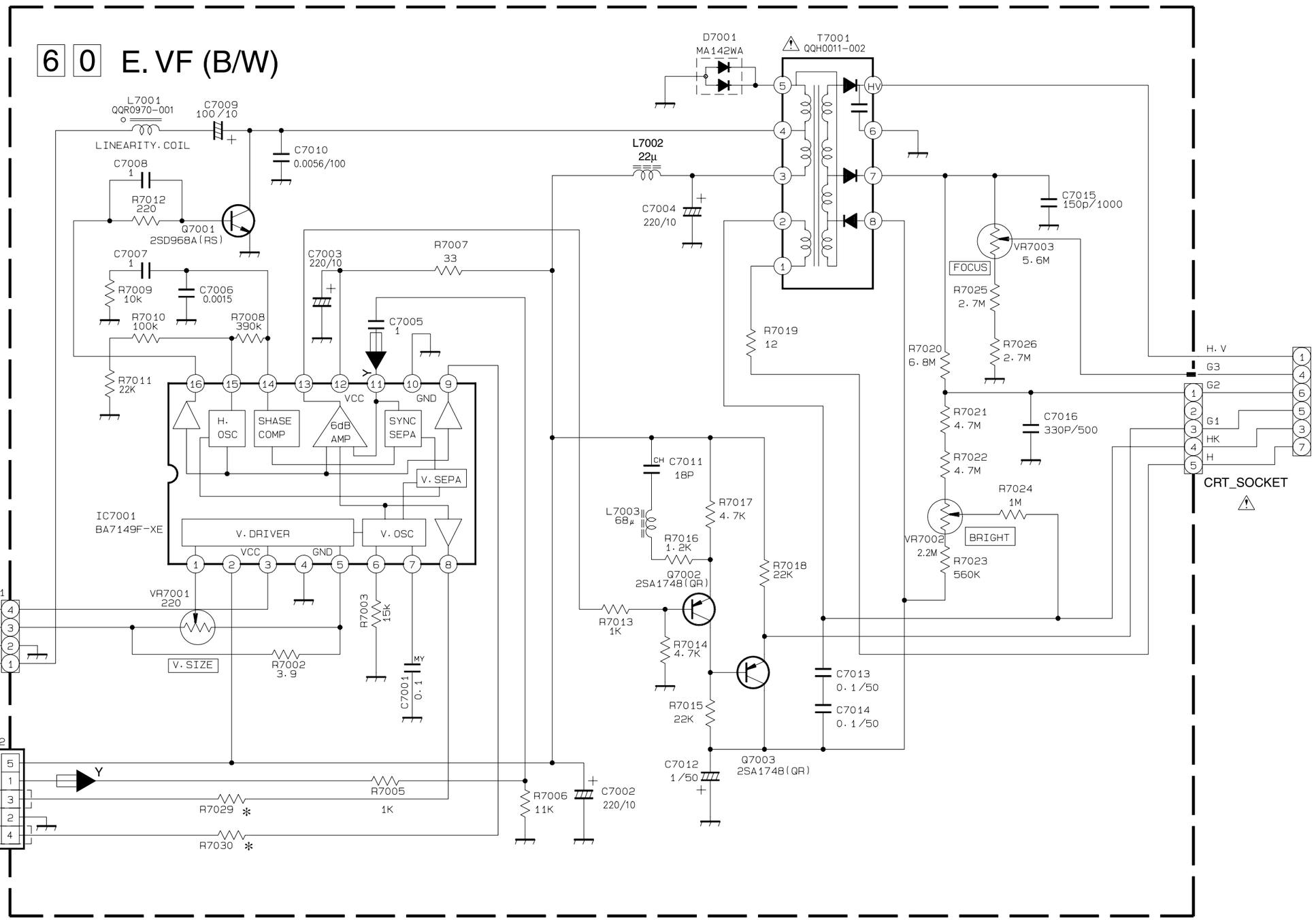
NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

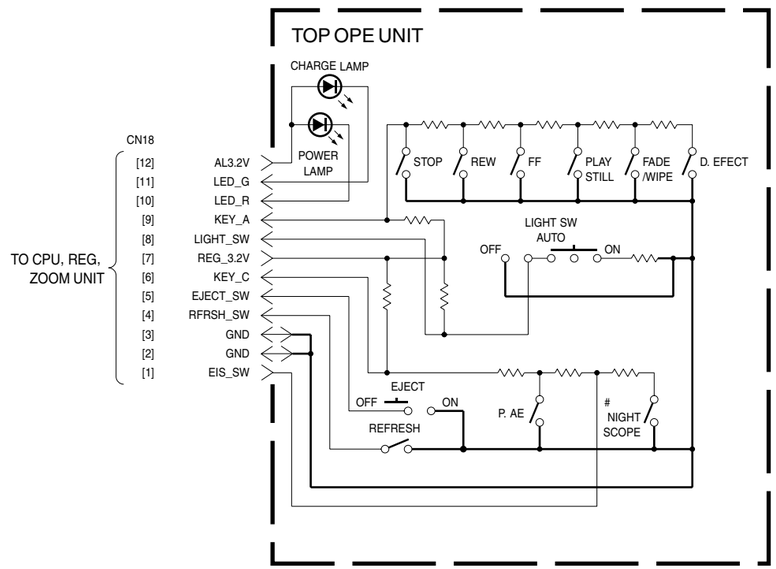


NOTE : The parts with marked (✻) is not used.

4.17 TOP OPE UNIT, ZOOM UNIT, REAR UNIT AND SENSOR SCHEMATIC DIAGRAMS

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *The schematic diagram is only for reference. Avoid replacing individual parts. Replace the entire unit only.*

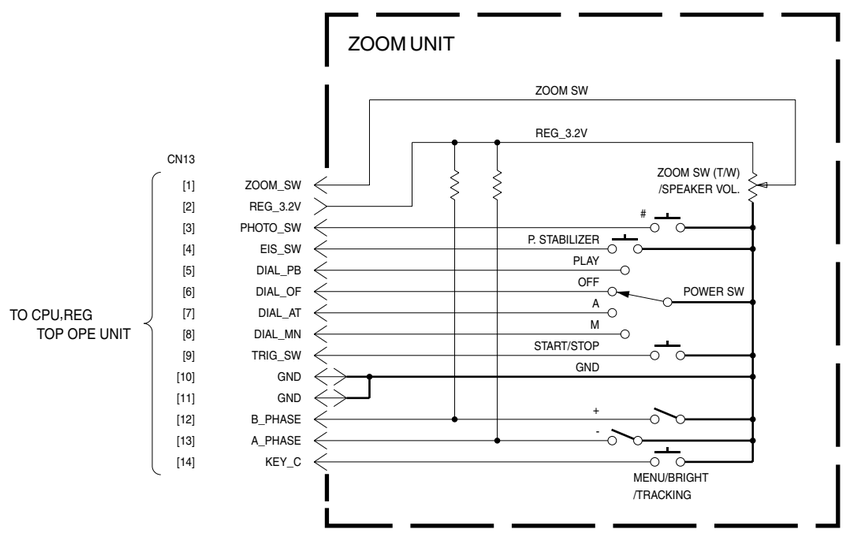
–TOP OPE UNIT–



NOTE : COMPARISON CHART OF MODELS & MARKS (#).

FUNCTION \ MODELS	GR-FXM38 GR-SXM67	GR-SXM48 GR-SXM87
NIGHT SCOPE	NOT USED	USED

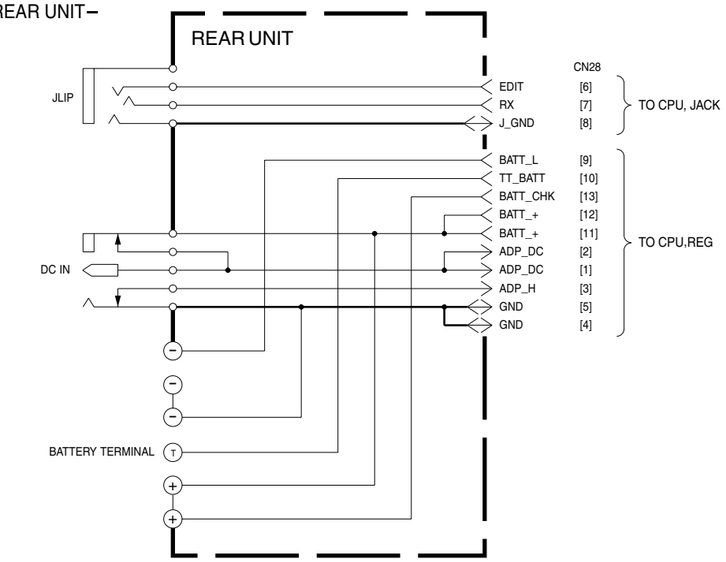
–ZOOM UNIT–



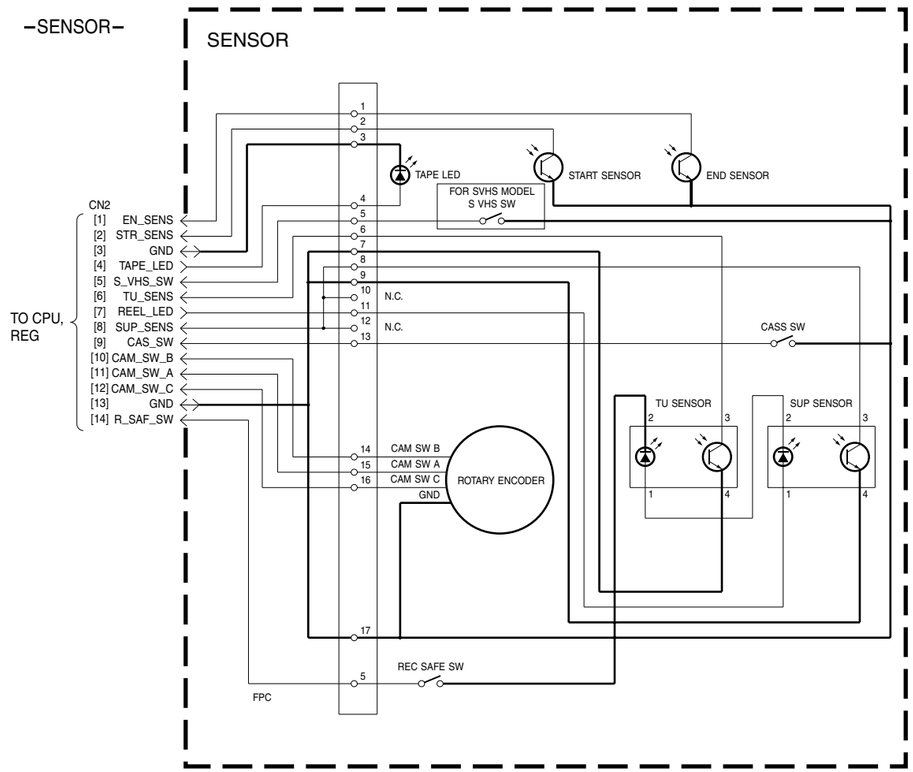
NOTE : COMPARISON CHART OF MODELS & MARKS (#).

MODELS	FUNCTION
GR-FMX38 GR-SXM67	5 SEC REC
GR-SMX48 GR-SXM87	SNAP SHOT

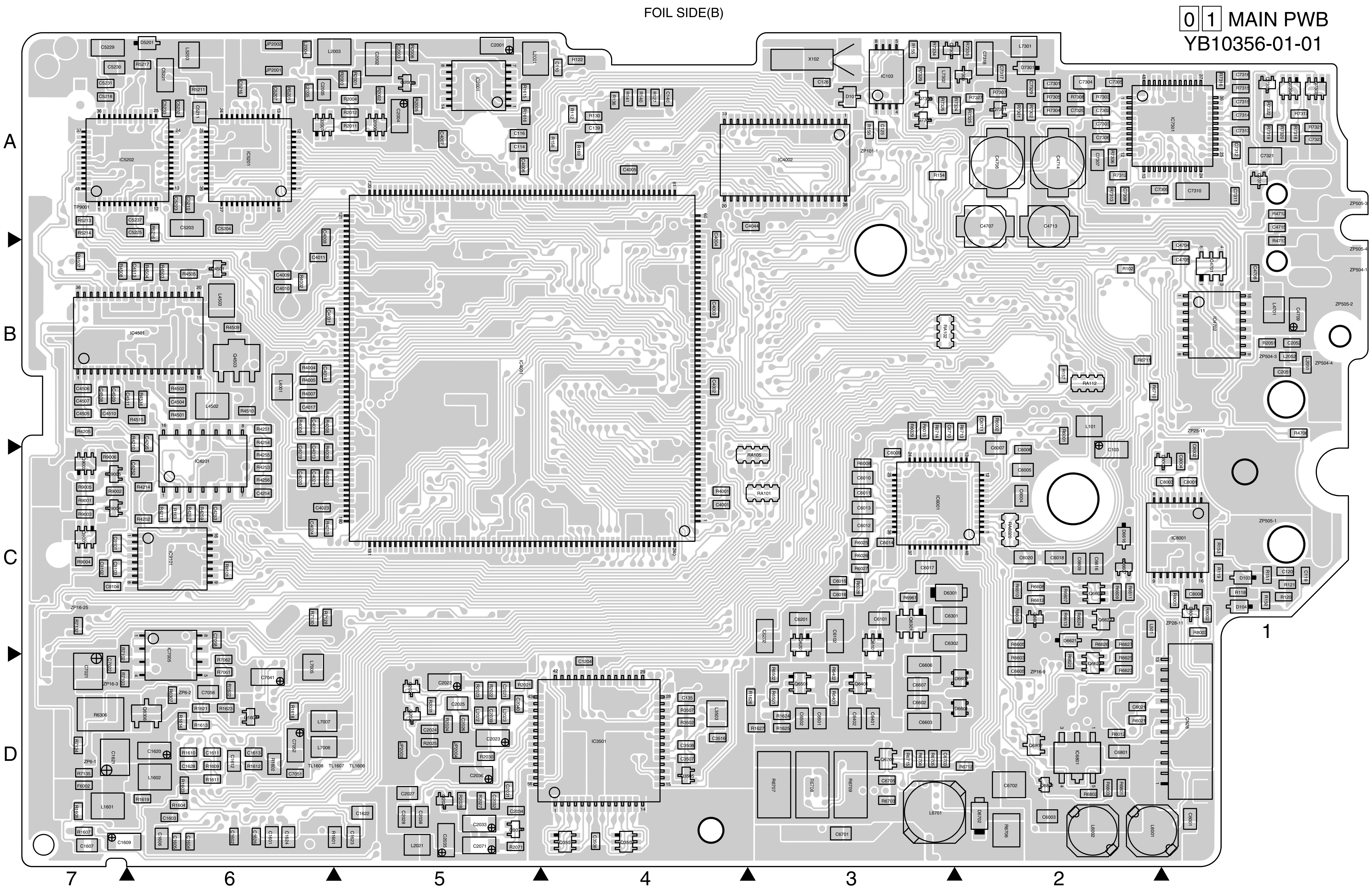
–REAR UNIT–



–SENSOR–



4.18 MAIN CIRCUIT BOARD



COMPONENT PARTS LOCATION GUIDE <MAIN/YB10356-01-01> (1/2)

REF.NO.	LOCATION
CAPACITOR	
C103	B C 2C
C104	A C 2B
C105	A C 2C
C107	A C 3A
C108	A C 1B
C109	A C 4A
C110	B C 4A
C111	A C 6A
C112	A C 4C
C113	A C 4A
C114	B C 5A
C115	A C 5C
C116	B C 5A
C118	A C 3B
C119	B C 1C
C120	B C 1C
C121	A C 4A
C122	A C 3A
C123	A C 3B
C124	A C 3B
C125	B C 3A
C126	B C 3A
C127	A C 3B
C128	A C 3B
C129	A C 3B
C131	A C 4C
C132	A C 3C
C133	A C 5B
C134	A C 5C
C135	B C 4D
C136	A C 1C
C138	A C 2B
C139	B C 4A
C140	B C 4A
C141	A C 3B
C142	A C 2B
C143	A C 3A
C144	A C 2B
C1201	A C 4D
C1202	A C 4D
C1204	B C 4D
C1205	A C 4D
C1206	A C 4D
C1601	B C 6D
C1602	B C 6D
C1603	B C 6D
C1604	B C 6D
C1605	B C 6D
C1606	B C 6D
C1607	B C 7D
C1608	A C 6D
C1609	B C 6D
C1610	A C 7D
C1611	B C 6D
C1612	B C 6D
C1613	B C 6D
C1614	A C 6D
C1615	A C 6D
C1616	A C 6C
C1617	A C 6D
C1618	A C 6D
C1619	A C 5D
C1620	B C 6D
C1621	B C 7D
C1622	B C 5D
C1623	B C 5D
C1624	B C 6D
C1625	A C 6D
C1626	B C 6D
C1627	A C 3B
C1628	B C 6D
C1629	A C 5A
C1630	A C 5A
C2001	B C 5A
C2002	B C 5A
C2003	B C 5A
C2004	B C 5A
C2005	B C 6A
C2021	B C 5D
C2022	B C 5D
C2023	B C 5D
C2024	B C 5D
C2025	B C 5D
C2026	B C 5D
C2027	B C 5D
C2028	B C 5D
C2029	A C 5D
C2031	B C 5D
C2032	B C 5D
C2033	B C 5D
C2034	B C 5D
C2035	B C 5D
C2036	B C 5D
C2038	B C 5D
C2039	B C 5D
C2040	B C 5D
C2051	B C 1B
C2052	B C 1B
C2071	B C 5D
C2072	A C 5D
C2401	A C 5B
C2402	A C 5B
C2403	A C 5B
C2404	A C 5B
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C3507	B C 4D
C3508	B C 4D
C3509	A C 6A
C3510	A C 4D
C3511	A C 4D
C3512	A C 4D
C3513	A C 4D
C3514	A C 4D
C3515	A C 4D
C3516	B C 4D
C3901	A C 4D
C3902	A C 4D
C3903	A C 4D
C4001	B C 4C
C4002	B C 4B
C4003	B C 4B
C4004	B C 4B
C4005	B C 4A
C4006	B C 5A
C4007	B C 5A
C4008	B C 6A
C4009	B C 6B
C4010	B C 6B
C4011	B C 6B
C4012	A C 5B
C4013	B C 6C
C4014	B C 6B
C4015	A C 5B
C4016	B C 6B
C4017	B C 6B
C4018	A C 5B
C4019	B C 6C
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C4021	B C 6C
C4023	B C 6C
C4024	B C 6C
C4025	A C 5B
C4026	A C 6B
C4027	A C 5C
C4028	A C 5C
C4029	A C 5C
C4030	A C 5C
C4031	B C 5B
C4032	A C 5C
C4033	A C 4C
C4034	A C 4C
C4035	A C 4C
C4036	A C 5C
C4037	A C 4C
C4038	A C 4C
C4039	A C 4C
C4040	A C 4C
C4041	A C 4C
C4042	A C 4C
C4043	A C 4C
C4044	B C 3A
C4045	A C 5C
C4046	A C 5C
C4047	A C 5A
C4048	A C 5A
C4201	A C 6B
C4202	A C 6C
C4203	A C 6B
C4205	B C 6B
C4206	A C 6B
C4207	A C 6A
C4208	A C 6B
C4209	A C 6B
C4210	A C 6B
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C4252	B C 6C
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C4254	B C 6C
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C4506	B C 7B
C4507	B C 7B
C4508	B C 7B
C4509	B C 7B
C4510	B C 7B
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C4513	B C 6B
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C4703	A C 6B
C4704	B C 1B
C4705	B C 1B
C4706	B C 2A
C4707	B C 2A
C4708	B C 1B
C4709	B C 1B
C4713	B C 2A
C4714	B C 2A
C4715	B C 1A
C4716	A C 6C
C4717	A C 6C
C5201	A C 7A
C5203	B C 6A
C5204	B C 6A
C5207	B C 6A
C5208	A C 6A
C5209	A C 6A
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C5213	A C 6A
C5214	A C 6A
C5216	B C 6A
C5218	B C 7A
C5219	A C 7A
C5221	B C 6A
C5222	A C 7A
C5223	B C 6A
C5225	B C 6A
C5227	A C 6A
C5228	A C 6A
C5229	B C 7A
C5230	B C 7A
C5231	B C 7A
C5232	B C 6A
C5233	B C 6A
C5234	A C 6A
C5235	A C 6A
C5236	A C 6A
C5237	B C 6A
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C6002	A C 3C
C6003	B C 2D
C6004	B C 2C
C6005	B C 2C
C6006	B C 2C
C6007	B C 2C
C6009	B C 3C
C6010	B C 3C
C6011	B C 3C
C6012	B C 3C
C6013	B C 3C
C6014	B C 3C
C6015	B C 3C
C6016	B C 3C
C6017	B C 3C
C6018	B C 2C
C6020	B C 2C
C6021	B C 2D
C6030	A C 2D
C6101	B C 3C
C6102	B C 3C
C6105	A C 3C
C6110	A C 3C
C6201	B C 3C
C6202	B C 3C
C6203	A C 3C
C6205	A C 3C
C6210	A C 3C
C6301	B C 3C
C6302	B C 3C
C6303	A C 3C
C6305	A C 3C
C6307	A C 6D
C6310	A C 3C
C6401	B C 3D
C6402	B C 3D
C6501	B C 3D
C6502	B C 3D
C6602	B C 3D
C6603	B C 3D
C6605	B C 2D
C6606	B C 3D
C6607	B C 3D
C6609	B C 2C
C6610	A C 3C
C6616	B C 2C
C6622	A C 2C
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C6702	B C 2D
C6703	B C 3D
C6705	B C 3D
C6710	B C 3B
C6711	B C 2B
C6801	B C 2D
C6802	A C 2D
C6811	A C 2D
C7021	B C 7D
C7022	B C 7D
C7041	B C 6D
C7051	B C 6D
C7052	B C 6D
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C7054	A C 5C
C7056	B C 6D
C7058	B C 6C
C7061	A C 5D
C7062	A C 5D
C7063	A C 5D
C7064	A C 5C
C7065	A C 5C
C7066	A C 5C
C7067	A C 6C
C7068	A C 6C
C7069	A C 6C
C7301	B C 2A
C7302	B C 2A
C7303	B C 2A
C7304	B C 2A
C7305	B C 2A
C7306	B C 2A
C7307	B C 2A
C7308	B C 2A
C7309	B C 1A
C7310	B C 1A
C7311	B C 1A
C7312	B C 1A
C7313	B C 1A
C7314	B C 1A
C7315	B C 1A
C7316	B C 1A
C7317	B C 2A
C7318	B C 2A
C7320	B C 2A
C7321	B C 1A
C7323	B C 1A
C7324	A C 1A
C7325	A C 2A
C7326	A C 2A
C7329	B C 2A
C8001	B C 1C
C8002	B C 1C
C8003	B C 1C
C8004	B C 1C
C8005	A C 2C
C8006	B C 1C
C8007	A C 7C
C9101	B C 7C
C9102	B C 7C
C9103	B C 7C
C9104	B C 7C
C9105	A C 6C
C9106	A C 6C
CONNECTOR	
CN1	A C 5D
CN2	A C 2D
CN3	A C 5A
CN4	A C 6D
CN5	A C 4D
CN6	A C 6D
CN7	A C 6A
CN8	A C 5D
CN11	A C 2A
CN12	A C 2A
CN13	A C 4A
CN15	A C 7B
CN16	A C 6D
CN18	A C 5A
CN22	A C 7A
CN25	A C 2D
CN27	A C 5C
CN28	B C 1D
CN9012	A C 2A
CN9013	A C 4A
CN9018	A C 5B
CN9025	A C 3D
CN9031	A C 6C
DIODE	
D101	B C 3A
D102	A C 1B
D103	B C 1C
D104	B C 1C
D4001	A C 5B
D5201	B C 6A
D6301	B C 3C
D6601	B C 2D
D6602	B C 2D
D6616	B C 2C
D6621	B C 2C
D6701	A C 3D
D6702	B C 2D
D7301	B C 2A
D8001	B C 1C
D8002	B C 1C
D9101	A C 6C
D9102	A C 6C
FUSE	
F6001	A C 2D
F6002	B C 7D
F6004	A C 6C
F7301	A C 3A
IC	
IC101	A C 4B
IC102	A C 3A
IC103	B C 3A
IC104	A C 2B
IC105	A C 1C
IC1601	A C 6D
IC1602	A C 4D
IC1801	A D 7A
IC2001	B C 5A
IC2401	A C 5B
IC3501	B C 4D
IC4001	B C 5B
IC4002	B C 3A
IC4003	A C 5C
IC4201	B C 6C
IC4202	A C 6B
IC4501	B C 6B
IC4701	B C 1B
IC4702	B C 1B
IC5201	B C 6A
IC5202	B C 6A
IC5301	A D 1D
IC6001	B C 3C
IC6002	A C 2C
IC6801	B C 2D
IC7005	B C 6D
IC7008	A C 6C
IC7301	B C 1A
IC7302	A C 1A
IC8001	B C 1C
IC9101	B C 6C
COIL	
L101	B C 2B
L501	B C 2C
L1601	B C 7D
L1602	B C 6D
L2001	B C 5A
L2003	B C 5A
L2004	B C 6A
L2005	B C 6A
L2021	B C 5D
L2022	B C 5D
L2023	B C 5D
L2051	B C 1B
L2052	B C 1B
L2071	A C 5D
L2072	A C 5D
L2401	A C 5B
L3502	A C 4D
L3503	B C 4D
L4001	B C 6B
L4201	A C 6C
L4501	A C 7B
L4502	B C 6B
L4503	B C 6B
L4701	B C 1B
L5201	A C 6A
L5202	A C 7A
L5203	B C 6A
L6001	B C 2D
L6002	B C 2D
L6101	A C 3C
L6201	A C 3C
L6301	A C 3C
L6302	A C 6C
L6401	A C 3D
L6501	A C 3D
L6601	A C 3D
L6701	B C 3D
L7005	B C 6D
L7006	B C 6D
L7007	B C 6D
L7301	B C 2A
L7302	B C 3A
L7304	A C 2A
L8001	A C 2C
L9101	A C 6C
L9102	A C 6C
TRANSISTOR	
Q101	A C 1B
Q102	A C 1B
Q103	A C 4A
Q104	A C 1C
Q105	A C 1D
Q106	A C 2D
Q107	A C 2D
Q108	A C 4A
Q109	A C 4A
Q112	A C 3B
Q113	A C 5B
Q114	A C 5B
Q1601	B C 6D
Q2001	B C 5A
Q2007	B C 6A
Q2008	B C 5A
Q2021	B C 5D
Q2022	B C 5D
Q2023	B C 5D
Q2071	B C 5D
Q2401	A C 5B
Q3501	B C 4D
Q3502	B C 4D
Q3505	B C 4D
Q3901	A C 4D
Q4001	A C 5B
Q4201	A C 6B
Q4202	A C 6A
Q4251	A D 7A
Q4501	B C 6B
Q4502	A C 6B
Q4503	B C 6B
Q4701	A C 6B
Q4702	A C 6C
Q6001	A C 2C
Q6002	A C 2C
Q6003	A C 2C
Q6004	A C 2C
Q6005	A C 2C
Q6101	B C 3C
Q6201	B C 3C
Q6301	B C 3C
Q6306	B C 6D
Q6401	B C 3D
Q6501	B C 3D
Q6606	B C 2C
Q6607	B C 2C
Q6608	B C 2C
Q6621	B C 2D
Q6622	B C 2C
Q6701	A C 3D
Q6702	B C 3D
Q6801	B C 2D
Q6802	B C 2D
Q6811	A C 2D
Q7003	A C 5D
Q7005	A C 5D
Q7011	A C 5C

COMPONENT PARTS LOCATION GUIDE <MAIN/YB10356-01-01> (2/2)

REF.NO.	LOCATION		
Q7013	A	C	5C
Q7015	A	C	5C
Q7301	B	C	2A
Q7303	B	C	1A
Q7304	B	C	1A
Q7305	B	C	1A
Q7306	B	C	3A
Q7307	B	C	3A
Q7308	B	C	2A
Q7309	B	C	2A
Q7310	A	C	3A
Q7311	A	C	3A
Q7312	B	C	1A
Q9001	B	C	7C
Q9002	B	C	7C
Q9004	B	C	7C
Q9005	B	C	7C
Q9201	A	C	3A
Q9202	A	C	3A
Q9203	A	C	3A
Q9204	A	C	3A
RESISTOR			
R101	A	C	2B
R102	B	C	2B
R103	A	C	3C
R104	A	C	1B
R105	A	C	1B
R106	A	C	1B
R107	A	C	1B
R108	A	C	1B
R109	A	C	1B
R110	A	C	4A
R111	A	C	4A
R112	B	C	4A
R113	A	C	1D
R114	A	C	1D
R115	A	C	1D
R116	A	C	1D
R117	A	C	1D
R118	B	C	1C
R119	B	C	1C
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R122	B	C	4A
R125	A	C	6C
R126	A	C	6C
R127	B	C	4A
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R129	A	C	1C
R130	B	C	4A
R131	A	C	2B
R136	B	C	4A
R138	A	C	5B
R139	A	C	5A
R140	B	C	4A
R141	B	C	4A
R142	A	C	2C
R143	A	C	3B
R144	A	C	3B
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R163	B	C	6C
R164	A	C	4A
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R167	A	C	6B
R168	A	C	6B
R169	B	C	4A
R170	A	C	6B
R171	A	C	2B
R172	A	C	3B
R176	A	C	3B
R177	A	C	4A
R178	A	C	5A
R179	A	C	5B
R180	A	C	5B
R181	A	C	1D
R182	A	C	1C
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R2402	A	C	5B
R2403	A	C	5B
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R3506	A	C	4C
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R4255	B	C	6C
R4256	B	C	6C
R4257	B	C	6C
R4258	A	C	6C
R4259	B	C	6C
R4262	A	C	6C
R4501	B	C	6B
R4502	B	C	6B
R4503	B	C	6B
R4504	B	C	6B
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R4511	A	C	6B
R4512	A	C	6C
R4513	A	C	7B
R4514	B	C	6B
R4515	B	C	6B
R4516	A	C	6C
R4701	A	C	5B
R4702	A	C	6B
R4703	A	C	5B
R4704	A	C	5B
R4706	B	C	1B
R4707	A	C	6C
R4708	A	C	6C
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R4710	A	C	5C
R4712	B	C	1A
R4713	B	C	1B
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R5202	A	C	6A
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R5213	B	C	7A
R5214	B	C	7A
R5215	A	C	6A
R5216	B	C	6A
R5217	B	C	6A
R5301	A	C	?D
R5302	A	C	1D
R5304	A	C	?D
R6001	B	C	2B
R6002	B	C	2B
R6003	A	C	2C
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R6028	B	C	3C
R6029	B	C	3B
R6030	A	C	2C
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R6032	A	C	2D
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R6037	A	C	2C
R6103	A	C	3C
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R6626	B	C	2C
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R7141	A	C	6C
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R7302	B	C	2A
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R8003	B	C	1C
R9001	B	C	7C
R9002	B	C	7C
R9003	B	C	7C
R9004	B	C	7C
R9005	B	C	7C
R9006	B	C	7C
R9101	B	C	6C
R9102	A	C	6C
R9103	A	C	6C
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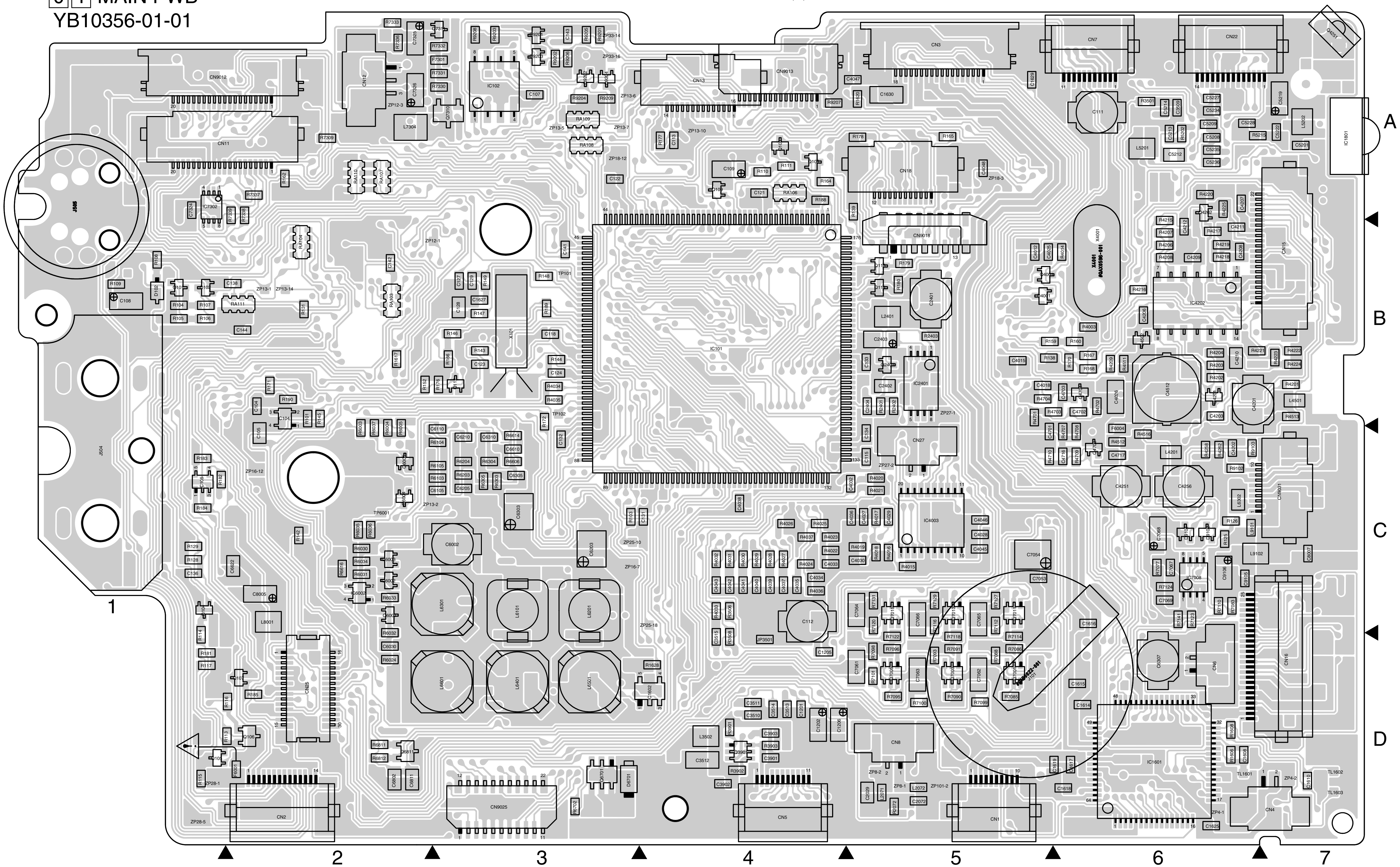
R9205	A	C	3A
R9206	A	C	3A
R9207	A	C	4A
R9208	A	C	3A
R9209	A	C	3A
RA101	B	C	3C
RA102	B	C	3B
RA103	A	C	2B
RA104	A	C	2B
RA105	B	C	3C
RA106	A	C	4A
RA107	A	C	2A
RA108	A	C	3A
RA109	A	C	3A
RA110	A	C	2A
RA111	A	C	2B
RA112	B	C	2B
RA6020	B	C	2C
TEST POINT			
TP101	A	C	3B
TP102	A	C	3B
TP6001	A	C	2C
TP9001	B	C	7A
OTHER			
J101	A	D	5D
J504	A	D	1B
J505	A	D	1A
JP2001	B	C	6A
JP2002	B	C	6A
JP2003	B	C	5D
JP2004	B	C	5D
JP3501	A	C	4D
TL1601	A	C	6D
TL1602	A	C	7D
TL1603	A	C	7D
TL1606	B	C	5D
TL1607	B	C	5D
TL1608	B	C	6D
TM2	A	C	?A
TM5	A	C	7A
TM6	A	C	7A
X101	A	C	3B
X102	B	C	3A
X4001	A	D	6B
ZP4-1	A	C	6D
ZP4-2	A	C	7D
ZP6-1	B	C	7D
ZP6-2	B	C	6D
ZP8-1	A	C	5D
ZP8-2	A	C	5D
ZP12-1	A	C	2B
ZP12-3	A	C	2A
ZP13-1	A	C	2B
ZP13-2	A	C	2C
ZP13-5	A	C	3A
ZP13-6	A	C	3A
ZP13-7	A	C	3A
ZP16-3	B	C	7D
ZP16-7	A	C	3C
ZP16-9	B	C	2D
ZP18-3	A	C	5A
ZP27-1	A	C	5B
ZP27-2	A	C	5C
ZP28-1	A	C	1D
ZP28-5	A	C	1D
ZP101-1	B	C	3A
ZP101-2	A	C	5D
ZP13-10	A	C	4A
ZP13-14	A	C	2B
ZP16-12	A	C	2C
ZP16-25	B	C	7C
ZP18-12	A	C	3A
ZP25-10	A	C	3C
ZP25-11	B	C	1B
ZP25-18	A	C	4C
ZP28-11	B	C	1C
ZP33-14	A	C	3A
ZP33-16	A	C	3A
ZP504-1	B	C	1B
ZP504-3	B	C	1B
ZP504-4	B	C	1B
ZP505-1	B	C	1C
ZP505-2	B	C	1B
ZP505-3	B	C	1A
ZP505-4	B	C	1B

0 1 MAIN PWB
YB10356-01-01

COMPONENT SIDE(A)



A
B
C
D
1
2
3
4
5
6
7
CN9012
CN11
CN12
CN13
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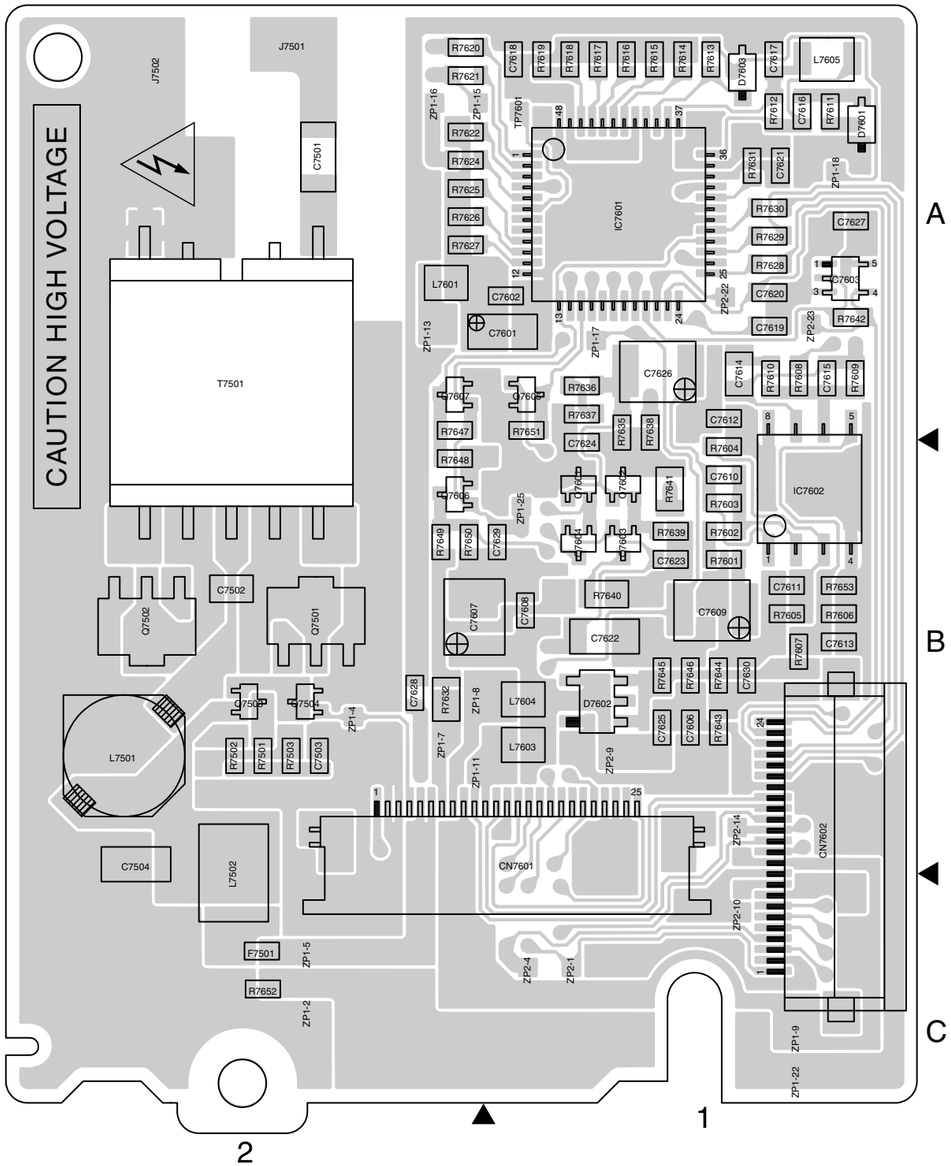
CN3
CN7
CN22
CN18
CN9018
CN15
CN27
CN9031
CN16
CN6
CN25
CN2
CN9025
CN5
CN8
CN1
CN4
IC101
IC102
IC7302
IC2401
IC4003
IC4202
IC1601
IC1801
IC6002
IC7008
J505
J504
J101
X101
X4001
C111
C112
C4512
C4201
C4251
C4256
C6307
C6002
L6301
L6101
L6201
L6601
L6401
L6501

4.19 MONITOR CIRCUIT BOARD

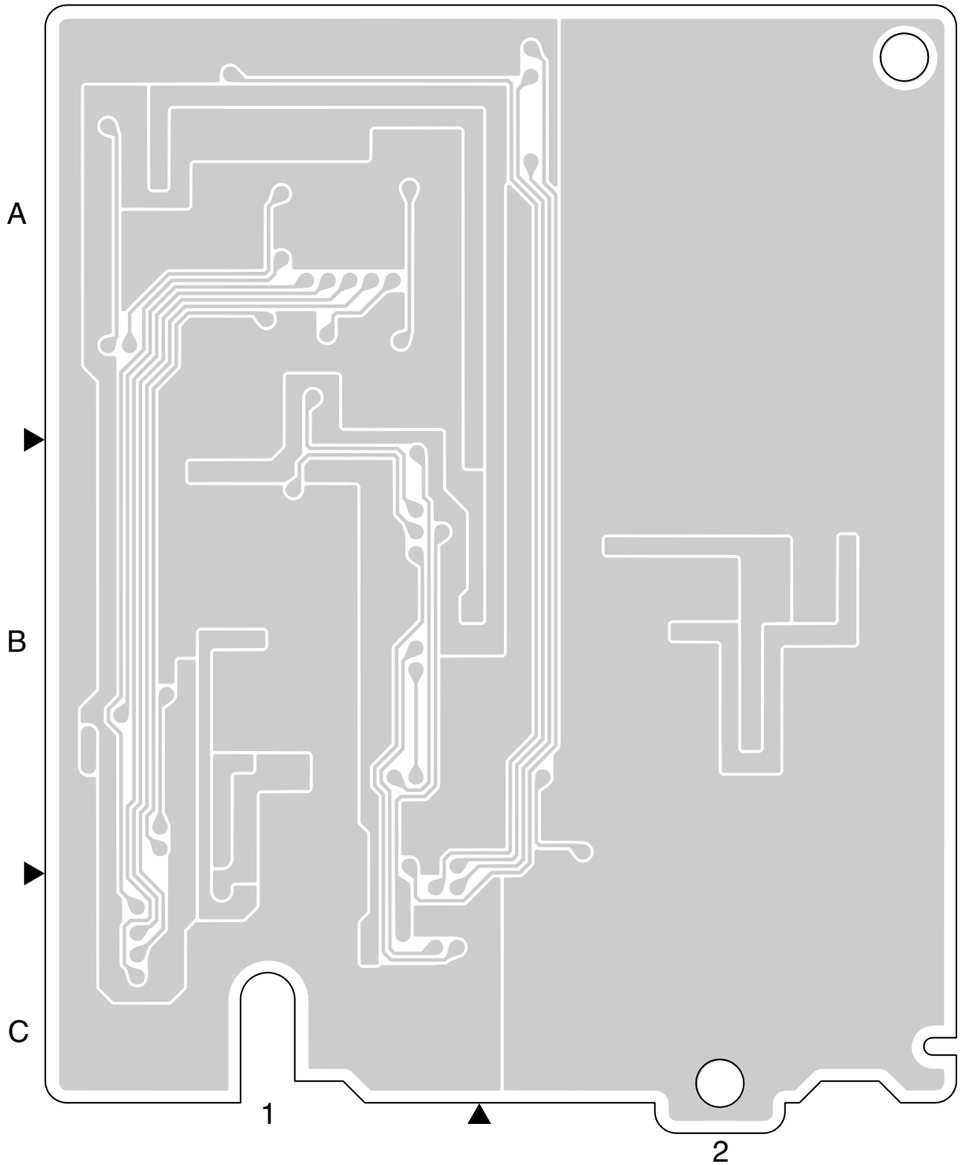
07 MONITOR PWB
YB20913

FOIL SIDE(B)



07 MONITOR PWB
YB20913

COMPONENT SIDE(A)



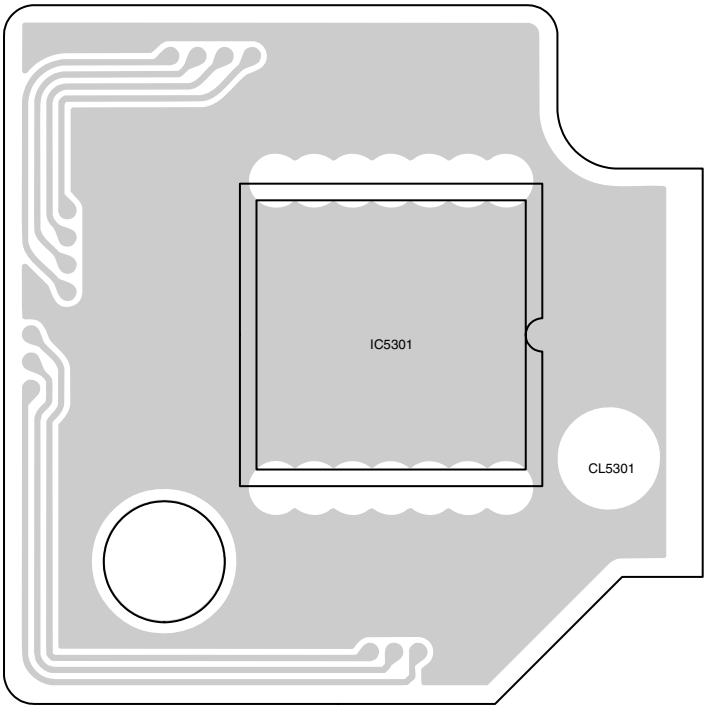
COMPONENT PARTS LOCATION GUIDE <MONITOR/YB20913>

REF.NO.	LOCATION		
CAPACITOR			
C7501	B	C	2A
C7502	B	C	2B
C7503	B	C	2B
C7504	B	C	2B
C7601	B	C	1A
C7602	B	C	1A
C7606	B	C	1B
C7607	B	C	2B
C7608	B	C	1B
C7609	B	C	1B
C7610	B	C	1B
C7611	B	C	1B
C7612	B	C	1A
C7613	B	C	1A
C7614	B	C	1A
C7615	B	C	1A
C7616	B	C	1A
C7617	B	C	1A
C7618	B	C	1A
C7619	B	C	1A
C7620	B	C	1A
C7621	B	C	1A
C7622	B	C	1B
C7623	B	C	1B
C7624	B	C	1B
C7625	B	C	1B
C7626	B	C	1A
C7627	B	C	1A
C7628	B	C	2B
C7629	B	C	1B
C7630	B	C	1B
CONNECTOR			
CN7601	B	C	2B
CN7602	B	C	1C
DIODE			
D7601	B	C	1A
D7602	B	C	1B
D7603	B	C	1A
FUSE			
F7501	B	C	2C
IC			
IC7601	B	C	1A
IC7602	B	C	1B
IC7603	B	C	1A
COIL			
L7501	B	C	2B
L7502	B	C	2C
L7601	B	C	2A
L7603	B	C	1B
L7604	B	C	1B
L7605	B	C	1A
TRANSISTOR			
Q7501	B	C	2B
Q7502	B	C	2B
Q7503	B	C	2B
Q7504	B	C	2B
Q7601	B	C	1B
Q7602	B	C	1B
Q7603	B	C	1B
Q7604	B	C	1B
Q7605	B	C	1A
Q7606	B	C	2B
Q7607	B	C	2A
RESISTOR			
R7501	B	C	2B
R7502	B	C	2B
R7503	B	C	2B
R7601	B	C	1B
R7602	B	C	1B
R7603	B	C	1B
R7604	B	C	1B
R7605	B	C	1B
R7606	B	C	1B
R7607	B	C	1B
R7608	B	C	1A
R7609	B	C	1A
R7610	B	C	1A
R7611	B	C	1A
R7612	B	C	1A
R7613	B	C	1A
R7614	B	C	1A
R7615	B	C	1A
R7616	B	C	1A
R7617	B	C	1A
R7618	B	C	1A
R7619	B	C	1A
R7620	B	C	1A
R7621	B	C	2A
R7622	B	C	2A
R7624	B	C	2A
R7625	B	C	2A
R7626	B	C	2A
R7627	B	C	2A
R7628	B	C	2A
R7629	B	C	1A
R7630	B	C	1A
R7631	B	C	1A
R7632	B	C	2B
R7635	B	C	1A
R7636	B	C	1A
R7637	B	C	1A
R7638	B	C	1A
R7639	B	C	2A
R7640	B	C	1B
R7641	B	C	1B
R7642	B	C	1A
R7643	B	C	1B
R7644	B	C	1B
R7645	B	C	1B
R7646	B	C	1B
R7647	B	C	1A
R7648	B	C	2B
R7649	B	C	2B
R7650	B	C	2B
R7651	B	C	1A
R7652	B	C	2C
R7653	B	C	1B
TEST POINT			
TP7601	B	C	1A
OTHER			
J7501	B	C	2A
J7502	B	C	2A
T7501	B	C	2A
ZP1-2	B	C	2C
ZP1-4	B	C	2B
ZP1-5	B	C	2C
ZP1-7	B	C	2B
ZP1-8	B	C	2B
ZP1-9	B	C	1C
ZP2-1	B	C	1C
ZP2-4	B	C	1C
ZP2-9	B	C	1B
ZP1-11	B	C	2B
ZP1-15	B	C	2B
ZP1-16	B	C	2A
ZP1-17	B	C	1A
ZP1-18	B	C	1A
ZP1-22	B	C	1C
ZP1-25	B	C	1B
ZP2-10	B	C	1C
ZP2-14	B	C	1B
ZP2-22	B	C	1A
ZP2-23	B	C	1A

4.20 CCD CIRCUIT BOARD

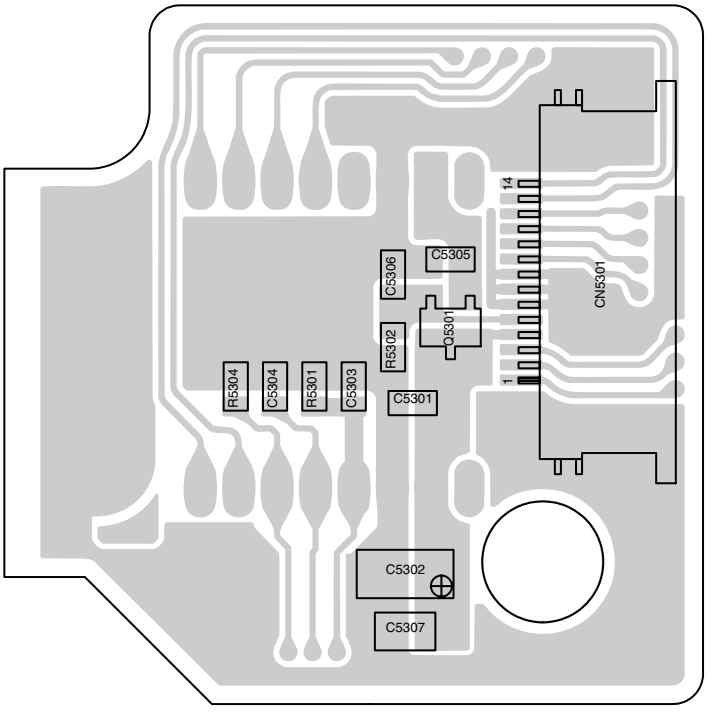
FOIL SIDE(B)

02 CCD PWB
YB10356-01-01



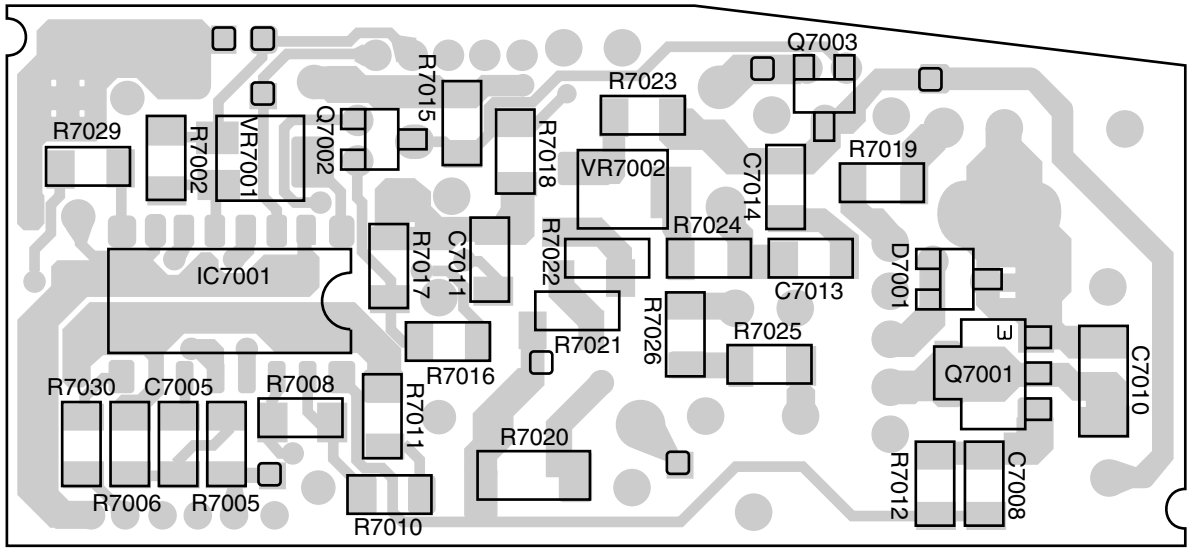
COMPONENT SIDE(A)

02 CCD PWB
YB10356-01-01



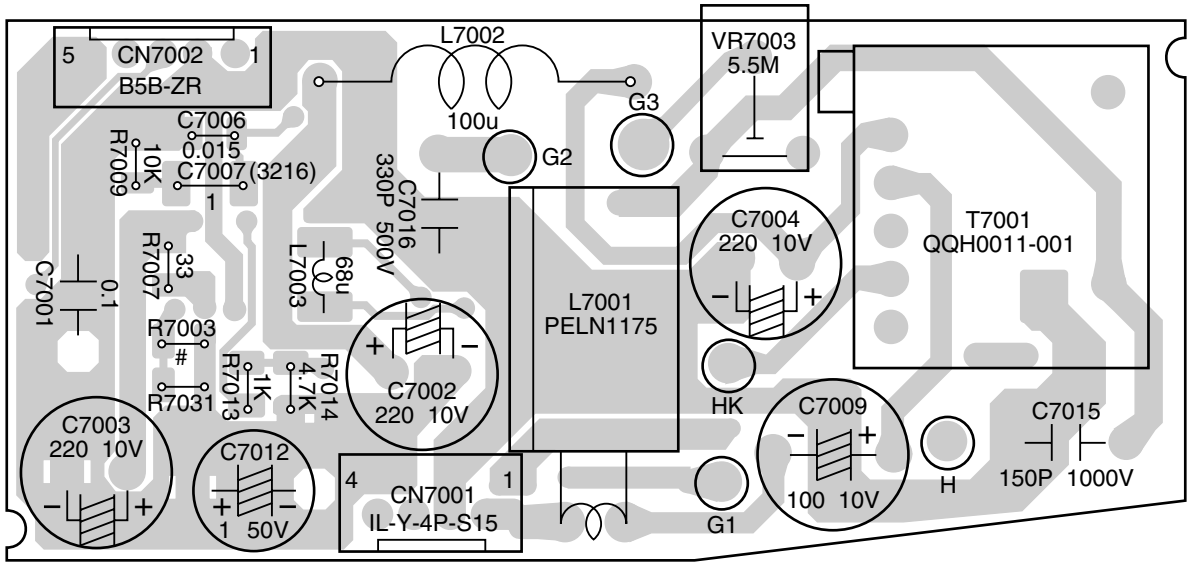
FOIL SIDE(B)

60 E. VF PWB



COMPONENT SIDE (A)

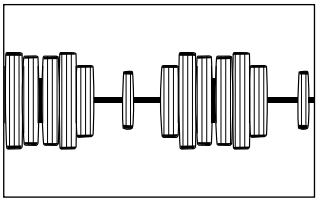
60 E. VF PWB



4.22 WAVEFORMS

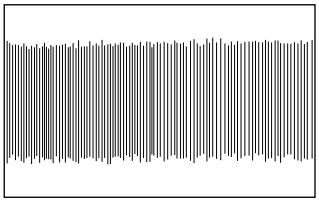
— VTR ASP —

WF1 IC3501-19



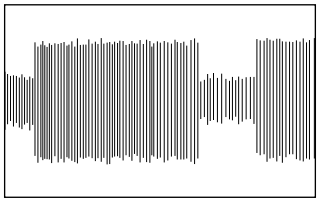
REC 0.1 Vp-p
2 mV/10 µsec/DIV

WF2 IC3501-20



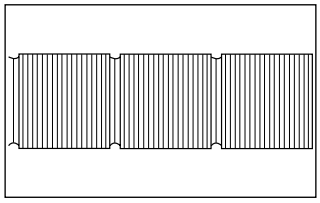
REC 0.57 Vp-p
10 mV/10 µsec/DIV

WF3 IC3501-21



PB 24 mVp-p
1 mV/5 msec/DIV

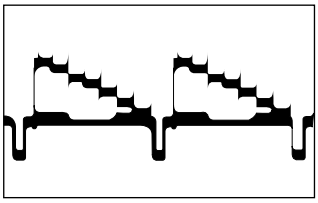
WF4 IC3501-25



PB 0.24 Vp-p
20 mV/5 msec/DIV

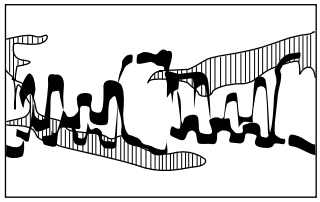
— DSP —

WF1 IC4001-146



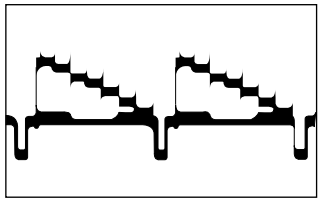
REC/PB 0.28 Vp-p
10 mV/20 µsec/DIV

WF2 IC4001-147



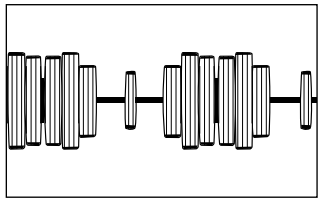
REC 0.52 Vp-p
20 mV/10 µsec/DIV
PB 0.3 Vp-p
10 mV/10 µsec/DIV

WF3 IC4001-160



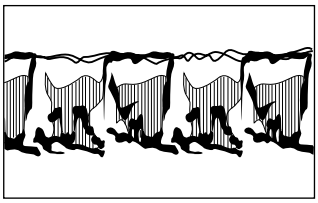
REC/PB 0.28 Vp-p
10 mV/20 µsec/DIV

WF4 IC4001-161



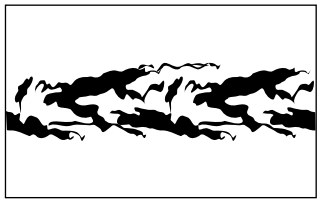
REC 0.15 Vp-p
PB 0.33 Vp-p
5 mV/10 µsec/DIV

WF5 IC4001-168



REC 0.76 Vp-p
20 mV/10 µsec/DIV
PB 0.17 Vp-p
5 mV/10 µsec/DIV

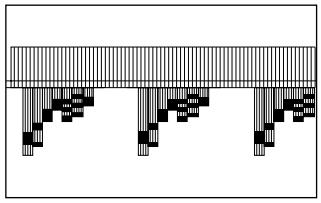
WF6 IC4001-169



REC 0.48 Vp-p
PB 0.13 Vp-p
10 mV/10 µsec/DIV

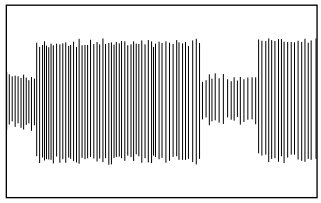
— TG/CDS —

WF1 IC5201-26



REC 0.26 Vp-p
5 mV/10 µsec/DIV

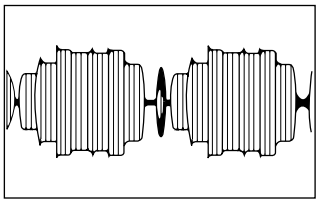
WF2 IC5201-27



PB 24 mVp-p
1 mV/5 msec/DIV

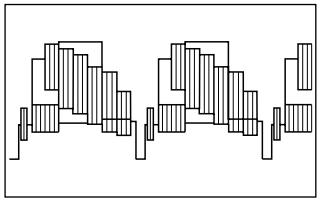
— V OUT —

WF1 IC4702-9



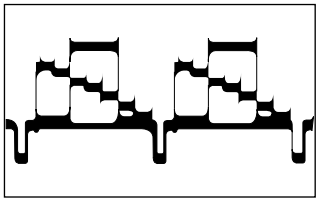
REC/PB 0.34 Vp-p
10 mV/10 µsec/DIV

WF2 IC4702-12



REC 0.66 Vp-p
PB 0.64 Vp-p
10 mV/10 µsec/DIV

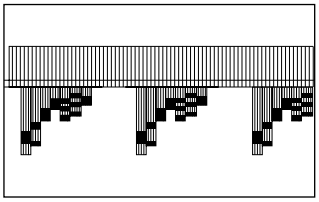
WF3 IC4702-15



REC 0.57 Vp-p
PB 0.55 Vp-p
10 mV/10 µsec/DIV

— CCD —

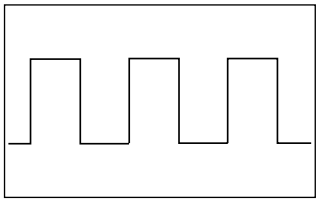
WF1 Q5301-B



EE 0.52 Vp-p
10 mV/10 µsec/DIV

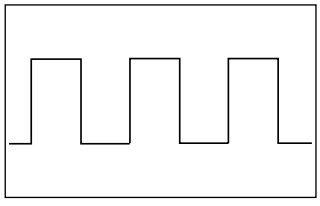
— CPU —

WF1 IC101-109



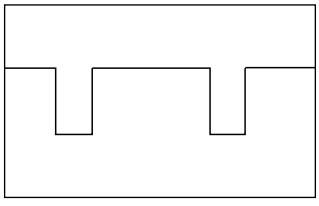
REC/PB 0.96 Vp-p
20 mV/0.5 msec/DIV

WF2 IC101-111



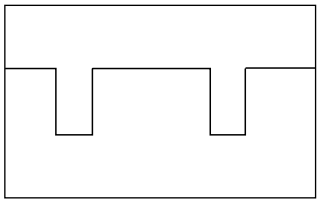
REC/PB 0.96 Vp-p
20 mV/0.1 msec/DIV

WF3 IC101-113



REC/PB 0.9 Vp-p
50 mV/5 msec/DIV

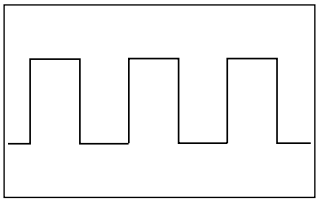
WF2 IC1601-26



REC/PB 0.9 Vp-p
50 mV/5 msec/DIV

— M.MDA —

WF1 IC1601-25



REC/PB 0.96 Vp-p
20 mV/0.1 msec/DIV

4.23 VOLTAGE CHARTS

<CPU>

MODE PIN NO.	REC	PLAY
IC101		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	3.3	3.2
5	0	0
6	0	0
7	3.2	3.2
8	3.2	3.2
9	0.7	0
10	3.2	3.2
11	0	0
12	0	1.3
13	3.2	3.2
14	0	0
15	0	0
16	1.5	0
17	0	0
18	3.2	3.2
19	0	0
20	0	0
21	3.2	0
22	1.6	0
23	3.2	3.2
24	2.9	2.7
25	3.1	3.1
26	1.6	1.5
27	0	0
28	0	0
29	3.2	3.2
30	3.2	3.2
31	3.2	2.5
32	3.2	3.2
33	3.2	3.2
34	3.2	3.2
35	3.2	3.2
36	0	0
37	0	0
38	0	3.2
39	3.2	3.2
40	0	0
41	0	0
42	3.2	0
43	0	0
44	0	0
45	0	0
46	3.0	3.0
47	0	0
48	0	0
49	3.0	0
50	3.0	3.0
51	0	3.0
52	3.1	3.1
53	-	-
54	-	-
55	3.2	3.3
56	0	0
57	1.3	1.3
58	1.7	1.7
59	2.1	0
60	0	0
61	2.9	2.9
62	2.9	2.8
63	0	0
64	0	0
65	0	0
66	3.3	3.3
67	3.2	3.2
68	0	0
69	3.2	3.2
70	1.5	1.5
71	-	-
72	0	0
73	1.6	1.6
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	3.2	3.2
82	0	0
83	1.9	0
84	0	0
85	3.2	0
86	3.2	0
87	0	0
88	0	0
89	0	0
90	3.2	3.2
91	3.3	3.3
92	3.0	3.0
93	3.1	3.0
94	3.2	3.2
95	3.0	3.0
96	0	0
97	0	0
98	0	0
99	3.2	3.2
100	0	0
101	3.0	3.0
102	0	0
103	1.6	1.6
104	1.0	0.6
105	3.2	3.2
106	0	0
107	3.1	3.2
108	3.1	3.1
109	1.7	1.6
110	0	0
111	1.6	1.7
112	1.8	1.8
113	2.9	2.9
114	0	0
115	2.9	3.0
116	3.2	3.2
117	0	2.8
118	3.2	3.2
119	3.2	3.2
120	3.2	0
121	2.9	2.9
122	0	0
123	0	0
124	0	0
125	2.2	0.5
126	3.2	3.2
127	0	0
128	3.2	3.2
129	0	0
130	1.7	1.7
131	0	3.3
132	0	-
133	3.3	3.3
134	0	0
135	3.2	3.2
136	3.2	3.2
137	0	0
138	0	0
139	0	0
140	3.2	3.2
141	3.2	3.2
142	3.2	3.2
143	3.2	3.2
144	3.2	3.2
145	0.8	0.8
146	0.8	0.8
147	0.8	0.8
148	0.7	0.7
149	0.7	0.7
150	0.8	0.7
151	0.7	0.6
152	0.8	0.6
153	3.2	3.2
154	0	0
155	0.7	0.8
156	0.8	0.6
157	0.8	0.7
158	0.8	0
159	0.6	0.6
160	0.7	0.5
161	0.5	0.7
162	0.6	0.5
163	0	0
164	3.2	3.2
165	0	0
166	3.2	3.2
167	0	0
168	0	0
169	1.6	1.6
170	3.2	3.2
171	0	0
172	0	0
173	0	0
174	0	3.2
175	3.2	3.2
176	3.2	3.2
IC102		
1	3.2	3.2
2	3.2	3.2
3	3.2	3.2
4	0	0
5	3.2	3.2
6	3.2	3.2
7	3.2	3.2
8	3.2	3.2
IC103		
1	0	0
2	3.2	3.2
3	3.2	3.2
4	0	0
5	0	0
6	0.6	0.6
7	0.7	0.8
8	3.1	3.1
IC104		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	0	0
IC105		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	2.7	2.6
5	3.2	3.2
IC1801		
1	2.7	2.7
2	0	0
3	4.8	4.8
Q101		
E	11.1	11.1
C	11.1	11.1
B	10.3	10.3
Q102		
E	0	0
C	0	0
B	3.2	3.2
Q103		
E	0	0
C	0	4.8
B	0.7	0
Q104		
E	0	0
C	4.5	4.5
B	0	0
Q105		
E	4.8	4.8
C	0	-0.5
B	4.8	4.7
Q107	-	-
Q108		
E	0	0
C	0	0
B	3.2	3.2
Q109		
E	0	0
C	2.1	2.1
B	0	0

<M.MDA>

MODE PIN NO.	REC	PLAY
IC1601		
1	0	0
2	0	0
3	1.7	1.7
4	2.6	2.6
5	2.4	3.3
6	1.7	1.7
7	1.6	1.6
8	0	0
9	0	0
10	1.2	-
11	0	0.4
12	0.4	0.4
13	1.8	1.8
14	0	0
15	1.4	1.4
16	8.4	8.5
17	11.1	11.1
18	10.3	10.3
19	1.6	1.6
20	0	0
21	1.4	0
22	3.2	3.2
23	0	0
24	0	0
25	1.6	1.6
26	2.9	3.0
27	1.6	1.7
28	1.2	1.2
29	1.2	-
30	1.2	-
31	0	0
32	1.2	1.2
33	1.2	0
34	1.2	-
35	0	0
36	0	3.0
37	0	0
38	1.4	1.5
39	1.6	1.6
40	1.3	1.3
41	3.1	3.1
42	0	2.5
43	1.5	1.6
44	1.6	1.6
45	1.6	1.6
46	1.6	1.6
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	0.8	0.8
55	0	0
56	11.1	11.1
57	0	0
58	0	0
59	0	1.7
60	0	1.4
61	1.6	1.6

MODE PIN NO.	REC	PLAY
62	1.4	1.4
63	1.7	1.6
64	1.5	1.4
IC1602		
1	0.4	0.4
2	0	0
3	2.2	2.2
4	3.2	3.2
5	3.2	3.2
Q1601		
E	1.7	1.7
C	11.1	11.1
B	5.8	5.8

<VTR ASP>

MODE PIN NO.	REC	PLAY
IC2001		
1	1.5	3.2
2	1.6	0
3	1.6	0
4	1.5	3.2
5	1.6	3.2
6	1.5	0
7	0	0
8	1.5	0
9	1.6	3.2
10	1.5	0
11	1.6	3.2
12	1.5	0
13	1.6	3.2
14	3.1	3.2
IC3501		
1	2.2	2.2
2	2.2	2.5
3	2.2	2.2
4	2.2	2.1
5	2.2	2.5
6	2.2	2.2
7	4.7	4.7
8	2.2	2.1
9	2.2	2.5
10	2.2	2.1
11	2.1	2.1
12	2.2	2.5
13	2.2	2.1
14	0	0
15	3.2	0
16	2.8	1.4
17	4.0	5.2
18	0	0
19	2.8	0
20	2.8	0
21	1.1	2.1
22	0	2.1
23	2.1	2.1
24	4.7	4.7
25	2.8	2.4
26	0	2.9
27	2.5	2.5
28	2.9	2.9

MODE PIN NO.	REC	PLAY
29	0	0
30	1.5	1.5
31	3.2	3.2
32	0.7	0
33	3.2	3.2
34	1.8	1.8
35	1.9	0
36	0	0
37	2.6	2.3
38	3.0	3.0
39	4.7	4.7
40	2.4	2.1
41	2.2	2.1
42	2.9	2.9
43	2.8	2.5
44	2.7	2.4
45	2.4	2.5
46	2.5	2.5
47	0	0
48	2.5	2.5
49	2.5	2.5
50	0	0
51	2.4	2.4
52	2.5	2.4
53	2.5	2.5
54	4.8	4.8
55	2.4	2.5
56	0	1.4
Q2001		
E	3.1	3.2
C	1.5	3.2
B	3.2	0
Q2007		
1(E)	-10.4	0
2(B)	-16.2	0.7
3(C)	0	0
4(E)	-10.4	0
5(B)	-16.2	0.7
6(C)	0	0
Q2008		
1(E)	3.1	1.8
2(B)	3.2	1.2
3(C)	3.2	1.2
4(E)	3.1	1.8
5(B)	3.2	1.2
6(C)	-16.4	0.8
Q2021		
E	0	0
C	0.6	0
B	0	0
Q2022		
E	0	0
C	0	0
B	0	0
Q2023		
E	0	0
C	0	0
B	0	0
Q2071		
E	4.5	4.5
C	4.7	4.8
B	4.7	4.8

MODE PIN NO.	REC	PLAY
Q3501		
1(E)	2.2	2.2
2(B)	2.4	2.2
3(C)	2.2	2.2
4(E)	2.2	2.2
5(B)	2.4	2.5
6(C)	2.2	2.2
Q3502		
1(E)	2.2	2.1
2(B)	0	2.2
3(C)	2.2	2.1
4(E)	2.2	2.1
5(B)	2.3	2.2
6(C)	2.2	2.1
Q3505		
E	0	0
C	2.8	0
B	0	2.7
Q3901		
1(E)	4.6	4.7
2(B)	0	4.9
3(C)	3.9	4.9
4(E)	0	0
5(B)	3.9	4.9
6(C)	0	0

<SPEAKER>

MODE PIN NO.	REC	PLAY
IC2401		
1	2.9	2.9
2	1.2	1.2
3	1.2	1.2
4	0	1.3
5	1.3	1.3
6	3.2	3.2
7	0	0
8	1.3	1.3
Q2401		
E	0	0
C	2.9	2.9
B	0	0

<DSP>

MODE PIN NO.	REC	PLAY
IC4001		
1	3.2	3.2
2	0	1.2
3	0	0
4	1.6	1.6
5	3.2	3.2
6	3.2	3.2
7	1.4	1.4
8	1.4	1.4
9	1.4	1.4
10	3.2	3.2
11	1.4	1.5
12	1.4	1.6
13	1.4	1.5

MODE PIN NO.	REC	PLAY
14	1.4	1.6
15	0	0
16	1.4	1.5
17	1.4	1.5
18	1.5	1.5
19	1.8	1.8
20	1.4	1.5
21	1.4	1.5
22	1.4	1.5
23	1.4	1.5
24	1.4	1.5
25	1.4	1.6
26	0	0
27	1.8	1.8
28	0	0
29	0	0
30	1.6	1.6
31	0	0.6
32	3.0	3.0
33	1.8	1.8
34	3.1	3.1
35	0	0
36	3.1	3.1
37	0	0
38	2.5	0
39	1.2	1.6
40	1.2	1.6
41	3.2	3.2
42	1.2	1.6
43	1.2	1.6
44	1.9	1.6
45	1.5	1.6
46	1.6	1.6
47	0.6	1.6
48	0	0
49	1.1	1.4
50	1.2	1.4
51	1.2	1.5
52	1.6	1.5
53	1.5	1.5
54	1.6	1.6
55	0	0
56	0	0
57	0	0
58	3.2	3.2
59	1.5	1.5
60	1.5	1.5
61	1.4	1.7
62	1.3	1.5
63	1.5	1.7
64	1.7	1.5
65	1.7	1.8
66	0.9	0.9
67	1.4	1.7
68	1.4	1.7
69	0	0
70	1.8	1.8
71	1.4	1.7
72	1.6	1.6
73	1.2	1.4
74	1.2	1.3
75	1.2	1.5

MODE PIN NO.	REC	PLAY
76	1.8	1.8
77	1.2	1.2
78	1.3	1.5
79	1.5	1.5
80	1.5	1.5
81	0.7	0.6
82	0	0
83	1.8	1.8
84	1.1	1.5
85	1.1	1.5
86	1.2	1.6
87	1.6	1.5
88	1.5	1.4
89	0	0
90	0	0
91	0	0
92	3.0	3.0
93	0	0
94	3.2	3.2
95	2.7	2.7
96	2.8	2.7
97	2.8	2.7
98	3.2	3.2
99	0	0
100	0	1.5
101	0.6	1.7
102	1.6	1.6
103	1.0	1.5
104	0	0
105	1.9	1.5
106	1.1	1.5
107	1.1	1.5
108	1.2	1.5
109	1.2	1.5
110	1.2	1.5
111	3.2	3.2
112	1.4	1.6
113	2.9	0
114	3.1	0
115	0	0
116	0	0
117	0	0
118	1.5	1.5
119	0	0
120	0	0
121	1.5	1.6
122	1.5	1.5
123	1.8	1.8
124	3.2	3.2
125	3.2	3.2
126	0.7	0
127	0	0
128	1.8	1.8
129	1.6	1.6
130	1.5	1.5
131	1.5	1.5
132	1.5	1.5
133	1.8	1.8
134	1.5	1.5
135	3.0	3.0
136	0	0
137	1.6	1.5

MODE PIN NO.	REC	PLAY
138	1.6	1.5
139	0	3.2
140	3.2	3.2
141	-	-
142	3.1	3.1
143	0	0
144	3.1	3.1
145	0	0
146	0.4	0.4
147	0.8	0.8
148	0.7	0.7
149	0.7	0.7
150	2.4	2.4
151	0	0
152	3.1	3.1
153	0	0
154	0	0
155	3.1	3.1
156	0	0
157	2.4	2.4
158	0.7	0.7
159	0.7	0.7
160	0.6	0.5
161	0.6	0.6
162	0	0
163	3.1	3.1
164	0	0
165	0	0
166	3.1	3.1
167	0	0
168	0.8	0.9
169	0.8	0.8
170	0.7	0.7
171	0.7	0.7
172	2.4	2.4
173	0	0
174	3.1	3.1
175	0	0
176	0	0
177	3.2	3.2
178	1.5	1.5
179	0	0
180	1.5	1.5
181	3.2	3.2
182	0	0
183	3.1	3.1
184	3.0	3.0
185	1.3	1.2
186	0	0
187	0	0
188	0	0
189	0	0
190	1.8	1.8
191	0	0
192	20	0
193	0	0
194	0	0
195	0	0
196	0	0
197	0	0
198	0	0
199	0	0

MODE PIN NO.	REC	PLAY
200	3.2	3.2
201	0	0
202	0	0
203	0	0
204	1.8	1.8
205	0	0
206	3.1	3.1
207	0	0
208	2.4	2.4
209	0.7	0.7
210	0.7	0.7
211	0.6	0
212	0	0
213	0	0
214	3.1	3.1
215	0	0
216	0	0
217	3.1	3.1
218	0	0
219	1.6	1.6
220	1.5	1.5
221	1.2	1.2
222	1.6	1.6
223	1.7	1.7
224	0	0
225	3.1	3.1
226	0	0
227	2.5	2.9
228	3.1	1.4
229	2.0	2.0
230	0	0
231	3.2	3.2
232	1.6	1.6
233	0	1.4
234	2.3	2.3
235	1.6	1.6
236	0	0
237	1.4	1.5
238	1.5	1.5
239	1.5	1.5
240	0	0
IC4002		
1	0	0
2	0	0
3	1.5	1.5
4	1.1	1.6
5	1.1	1.5
6	1.1	1.5
7	0.6	0.6
8	1.3	1.3
9	1.3	1.4
10	1.1	1.5
11	1.0	1.1
12	1.1	1.5
13	1.3	1.3
14	1.2	1.3
15	1.5	1.4
16	0	0
17	2.7	2.7
18	3.0	3.0
19	3.2	3.2
20	0	0

MODE PIN NO.	REC	PLAY
21	3.2	3.2
22	2.8	2.7
23	2.7	2.7
24	0	0
25	1.5	1.4
26	1.4	1.5
27	1.5	1.5
28	1.4	1.6
29	1.3	1.3
30	1.4	1.5
31	1.5	1.5
32	1.7	1.6
33	0.8	0.9
34	1.3	1.8
35	1.4	1.9
36	1.4	1.8
37	1.6	1.8
38	0	0
IC4003		
1	3.1	3.1
2	2.5	2.5
3	2.9	2.7
4	3.2	3.2
5	3.2	3.2
6	0	0
7	1.3	1.3
8	1.3	1.3
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	3.1	3.1
20	3.0	2.9
Q4001		
E	0	0
C	0	0
B	0	0

<F/Z/I/MDA>

MODE PIN NO.	REC	PLAY
IC4201		
1	2.2	0.5
2	1.9	1.9
3	1.9	1.9
4	4.8	4.8
5	1.9	1.9
6	1.9	1.9
7	1.9	1.9
8	1.6	1.6
9	1.9	1.9
10	1.9	1.9
11	0	0
12	1.9	1.9
13	1.9	1.9
14	2.5	2.5

MODE PIN NO.	REC	PLAY
IC4202		
1	1.8	3.6
2	1.5	0.4
3	1.4	0.4
4	4.8	4.8
5	2.1	0
6	2.1	0.5
7	1.2	0
8	0	0.9
9	0	0
10	0	0
11	0	0
12	1.9	1.9
13	1.9	1.9
14	1.9	1.9
IC4501		
1	0	0
2	0.8	0.8
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	3.2	3.2
9	4.8	4.8
10	0.6	2.2
11	0	0
12	0.6	2.2
13	4.8	4.8
14	0.6	0.8
15	0	0
16	0.6	3.6
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	4.8	4.8
24	1.0	0.8
25	0	0
26	1.0	0.8
27	4.8	4.8
28	1.0	0.7
29	0	0
30	1.0	0.7
31	0	0
32	0	0
33	0	0
34	0.7	0
35	3.2	3.2
36	1.6	1.6
37	1.5	1.5
38	3.2	3.2
Q4201		
E	0	0
C	1.3	1.3
B	0.9	0.9
Q4202		
E	1.3	2.9
C	4.8	4.8
B	2.0	3.6

MODE PIN NO.	REC	PLAY
Q4251		
E	0	0
C	4.5	4.5
B	-	-
Q4501		
E	0	0
C	4.2	4.2
B	0	0

<V OUT>

MODE PIN NO.	REC	PLAY
IC4701	-	-
IC4702		
1	0	0
2	2.3	2.4
3	0	0
4	0	0
5	0	0
6	0	0
7	1.9	1.9
8	0	0
9	2.3	2.3
10	0	0
11	2.2	2.1
12	2.4	2.4
13	4.7	4.8
14	1.9	1.9
15	2.0	2.0
16	4.7	4.8
Q4701		
E	1.1	1.1
C	0	0
B	0.5	0.5
Q4702		
E	1.2	1.2
C	0	0
B	0.5	0.5

<TG/CDS>

MODE PIN NO.	REC	PLAY
IC5201		
1	0	0
2	1.2	1.5
3	1.2	1.5
4	1.1	1.5
5	1.0	1.5
6	1.0	1.5
7	2.0	1.5
8	1.0	1.5
9	1.3	1.5
10	0.6	1.6
11	0	1.5
12	0	0
13	0	0
14	0	0
15	3.0	3.1
16	1.6	1.5
17	3.0	0

MODE PIN NO.	REC	PLAY
18	2.8	0
19	2.7	0
20	2.5	0
21	0	0
22	0	0
23	3.0	3.1
24	0	0
25	0	0
26	2.0	0
27	1.5	1.5
28	2.0	0
29	2.0	0
30	0	0
31	3.0	3.1
32	2.0	2.0
33	1.0	1.0
34	1.5	1.5
35	1.2	1.2
36	0	0
37	0	0
38	3.1	3.2
39	0	1.0
40	0	0
41	3.0	3.1
42	0	0
43	3.2	3.2
44	3.1	3.1
45	0.7	0
46	3.0	3.1
47	0	0
48	0	0
IC5202		
1	3.0	3.1
2	3.0	3.1
3	1.5	1.6
4	3.0	0
5	3.0	0
6	2.5	0
7	0	0
8	1.5	1.5
9	3.0	3.1
10	1.5	1.6
11	1.2	1.2
12	1.4	1.6
13	3.0	3.1
14	0	0
15	2.6	0
16	2.6	0
17	2.6	0
18	2.6	0
19	3.0	3.1
20	3.0	3.1
21	1.7	0
22	1.5	0
23	0	0
24	0	2.8
25	0	0
26	0	0
27	0	0
28	0	0
29	-7.8	0
30	0	14.9

MODE PIN NO.	REC	PLAY
31	14.9	14.9
32	-7.8	14.9
33	-8.3	14.9
34	-8.3	-8.4
35	0	0
36	0	0
37	0	0
38	0	0
39	3.2	3.2
40	0.7	0
41	0	0
42	3.0	3.1
43	0	0
44	3.0	3.1
45	0	0
46	3.2	0
47	2.9	0
48	3.1	0

<REG>

MODE PIN NO.	REC	PLAY
IC6001		
1	3.2	3.2
2	3.2	3.2
3	3.2	3.2
4	-	-
5	0	0
6	11.1	11.1
7	1.0	1.0
8	1.2	1.3
9	2.2	2.2
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	2.2	2.2
17	0	0
18	2.2	2.2
19	1.0	1.0
20	0.7	0.7
21	1.0	1.0
22	0.5	0.5
23	1.0	1.0
24	0.8	0.8
25	1.0	1.0
26	0.6	0.6
27	0.8	0.8
28	0	0
29	1.0	1.0
30	0	0
31	2.4	2.4
32	1.1	1.1
33	0	0
34	2.2	2.2
35	2.2	2.2
36	2.2	2.2
37	8.0	8.0
38	0	0

MODE PIN NO.	REC	PLAY
39	11.1	11.1
40	8.1	8.1
41	6.2	6.2
42	9.1	9.1
43	7.8	7.8
44	0	0
45	11.1	11.1
46	0	0
47	0	0
48	3.3	3.3
IC6801		
1	3.3	3.3
2	0	0
3	0	0
4	11.0	11.0
5	11.1	11.0
Q6101		
1	7.8	7.8
2	11.1	11.1
3	0	0
4	3.2	3.2
5	3.2	3.2
Q6201		
1	9.1	9.1
2	11.1	11.1
3	0	0
4	1.8	1.8
5	1.8	1.8
Q6301		
1	6.1	6.1
2	11.1	11.1
3	8.1	8.1
4	0	0
5	11.1	11.1
6	4.8	4.8
Q6306		
D	0	0
S	0	0
G	0.7	0.5
Q6401		
1	10.0	10.0
2	11.1	11.1
3	0	0
4	3.4	3.4
5	3.4	3.4
Q6501		
1	10.3	10.3
2	11.1	11.1
3	0	0
4	1.7	1.7
5	1.7	1.7
Q6608		
E	0	0
C	14.9	14.9
B	-0.9	-0.9
Q6701		
1	0	0
2	0	0
3	11.1	11.1
4	11.1	11.1
5	0	0
6	0	0

MODE PIN NO.	REC	PLAY
Q6702		
E	0	0
C	0	0
B	0	0
Q6802		
E	3.3	3.3
C	3.3	3.3
B	0	0
Q6811		
E	1.4	1.4
C	0	0
B	0.8	0.8

<LCD/CVF>

MODE PIN NO.	REC	PLAY
Q7011	-	-
Q7013		
1(E)	0.8	0.8
2(B)	1.3	1.3
3(C)	4.8	4.8
4(E)	2.3	2.3
5(B)	2.9	2.9
6(C)	-	-
Q7015		
1(E)	0.8	0.8
2(B)	1.3	1.4
3(C)	4.8	4.8
4(E)	2.3	2.3
5(B)	2.9	2.9
6(C)	2.9	2.9

<BW/CVF>

MODE PIN NO.	REC	PLAY
Q7301		
E	0	0
C	0	0
B	0.4	0.4
Q7310		
E	4.8	4.8
C	0	0
B	4.8	4.8
Q7311		
E	0	0
C	4.8	4.8
B	0	0

<CCD>

MODE PIN NO.	EE
IC5301	
1	-7.8
2	0
3	-0.3
4	-0.3
5	0
6	0
7	0
8	0
9	0
10	6.9
11	-8.3
12	8.6
13	1.6
14	1.2
Q5301	
E	0
C	14.9
B	11.2

<MONITOR>

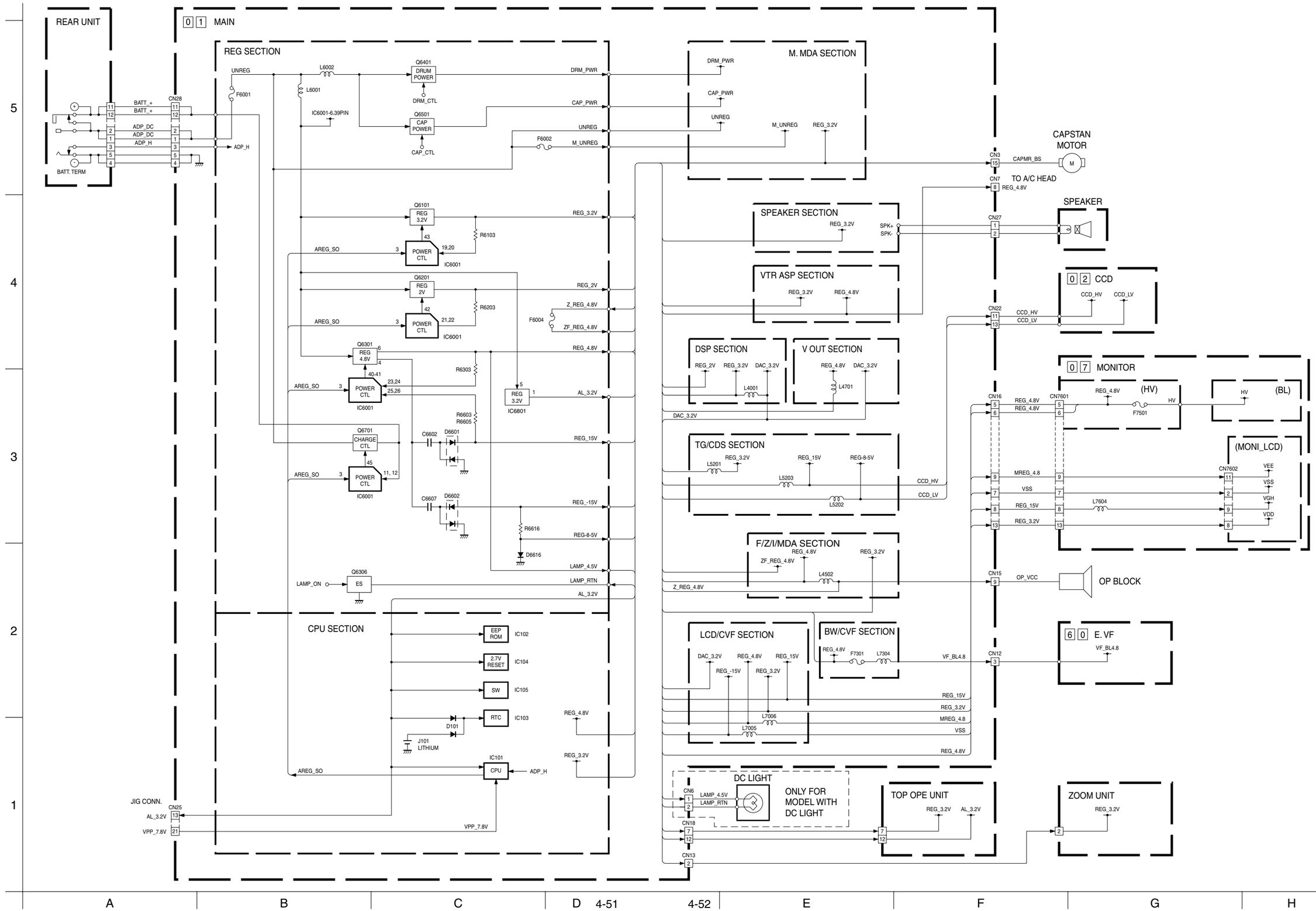
MODE PIN NO.	EE
IC7601	
1	0.8
2	3.0
3	3.2
4	0
5	3.1
6	3.0
7	3.1
8	0
9	0
10	0
11	0
12	0
13	2.5
14	1.6
15	0
16	0
17	0
18	0
19	0
20	0
21	0.4
22	1.6
23	0
24	0
25	1.4
26	0
27	1.4
28	2.5
29	1.4
30	0
31	0
32	3.2
33	1.6
34	0
35	3.2
36	1.5
37	1.5
38	0
39	3.2
40	0
41	3.2
42	0
43	3.2
44	0
45	3.2
46	0
47	3.2
48	0
IC7602	
1	6.0
2	6.0
3	6.0
4	0
5	1.6
6	1.6
7	9.8
8	12.1
IC7603	-

MODE PIN NO.	EE
Q7501	
E	0
C	4.4
B	0.4
Q7502	
E	0
C	4.4
B	0.4
Q7503	
E	4.5
C	4.5
B	0
Q7504	
E	0
C	0
B	3.2
Q7601	
E	-8.7
C	0
B	0
Q7602	
E	-8.0
C	-14.7
B	-8.3
Q7603	
E	-8.4
C	-1.8
B	-8.0
Q7604	
E	-8.4
C	0
B	-8.7
Q7606	
E	3.2
C	-13.0
B	2.5
Q7607	
E	0
C	0
B	2.5

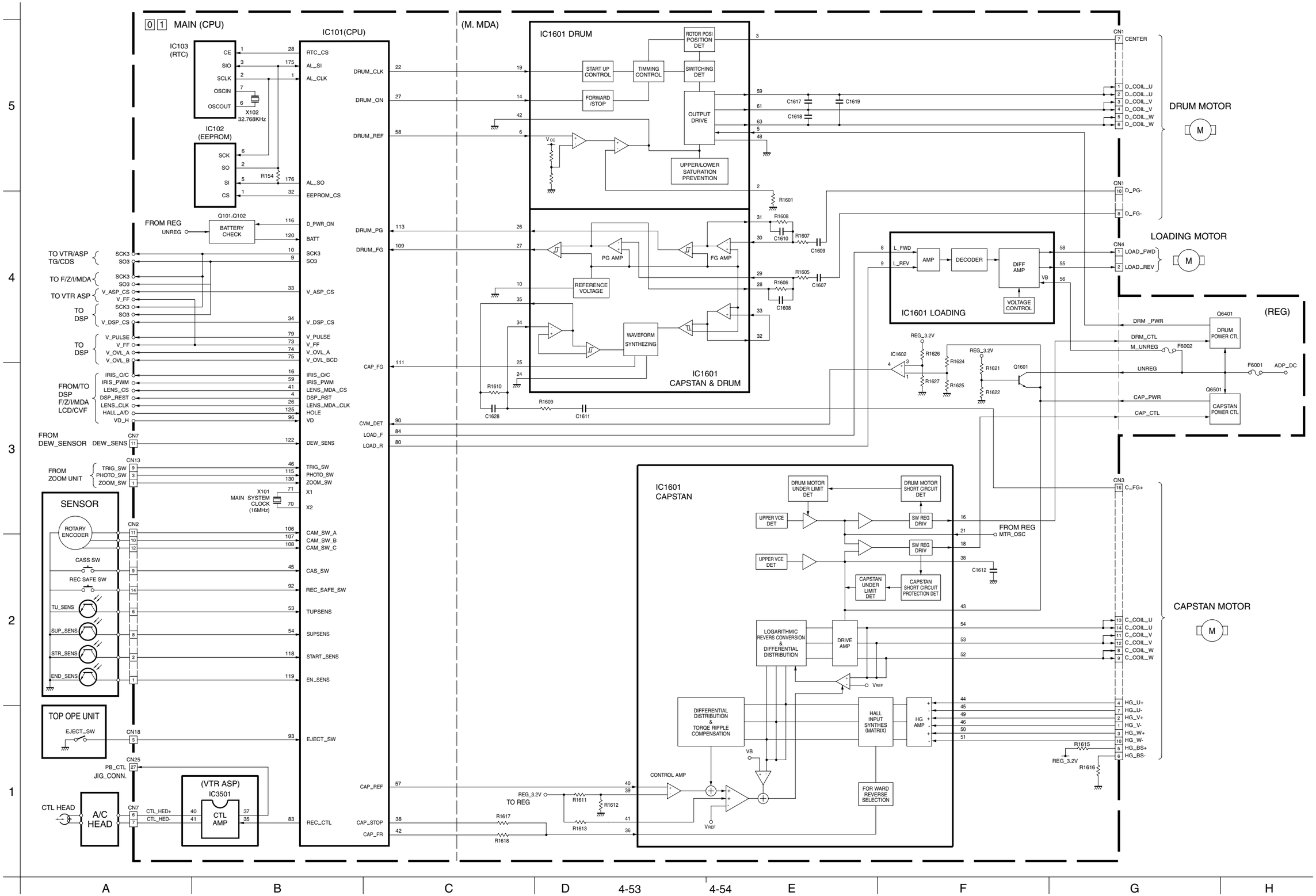
<E.VF>

MODE PIN NO.	EE
IC7001	
1	2.1
2	4.9
3	2.0
4	0
5	2.1
6	1.3
7	2.0
8	6.0
9	4.2
10	0
11	1.9
12	4.5
13	2.8
14	1.7
15	1.8
16	1.6
Q7001	
E	0
C	4.4
B	0.5
Q7002	
E	2.8
C	-24.8
B	2.3
Q7003	
E	-24.0
C	-34.3
B	-24.6

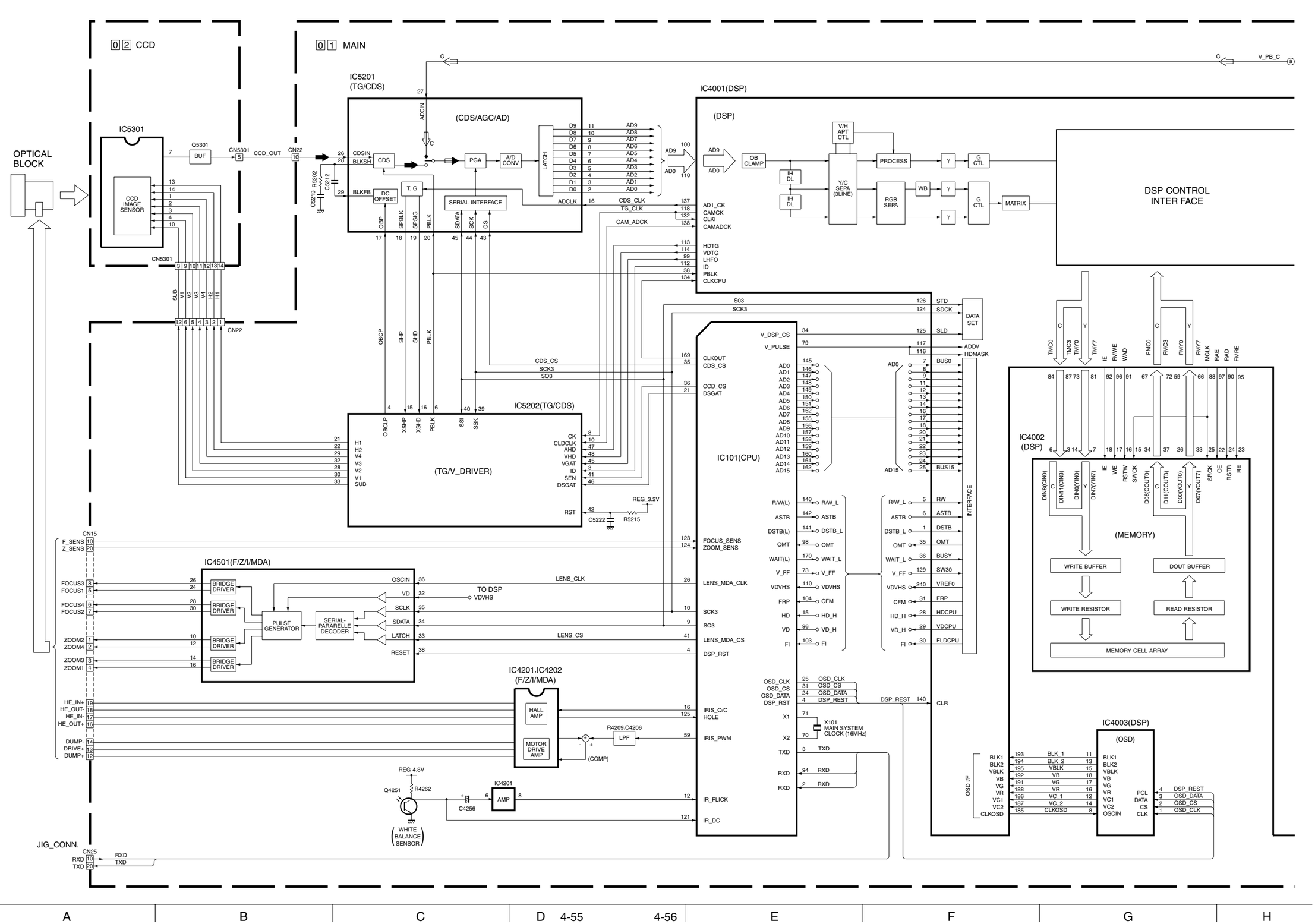
4.24 POWER SYSTEM BLOCK DIAGRAM

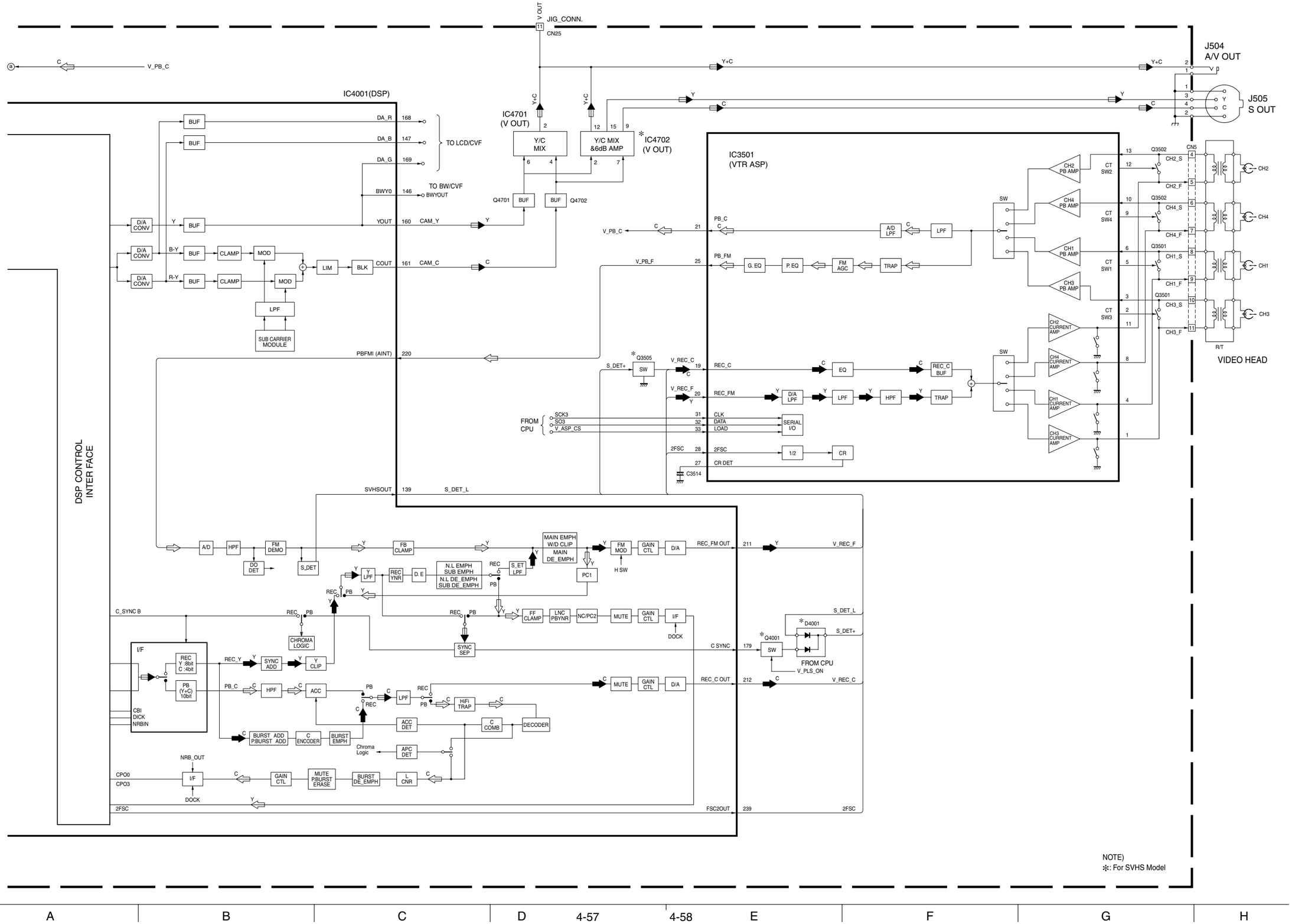


4.25 CPU/MDA SYSTEM BLOCK DIAGRAM

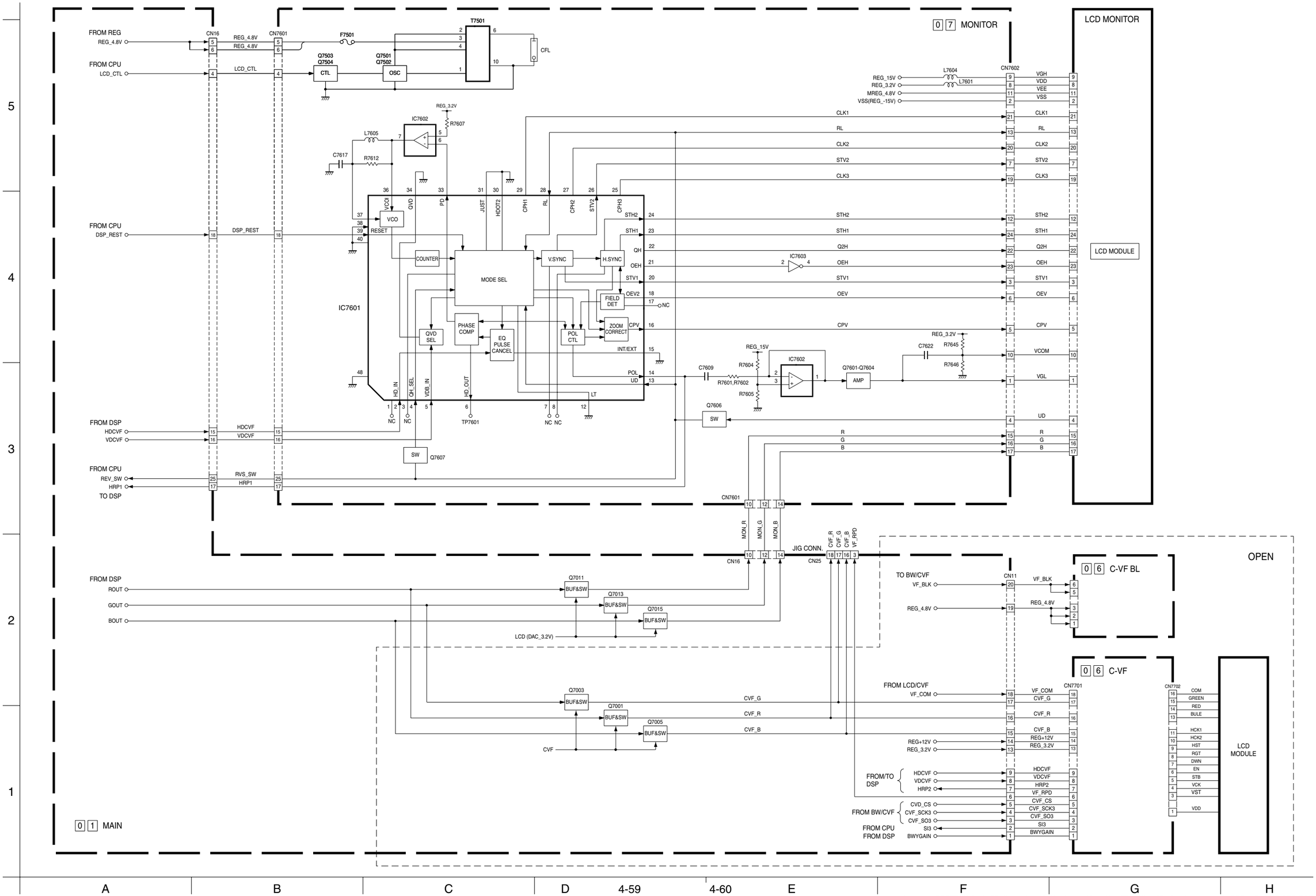


4.26 CAMERA AND Y/C SYSTEM BLOCK DIAGRAM




V OUT
11
JIG_CONN.
CN25
J504
A/V OUT
J505
S OUT
V_PB_C
IC4001(DSP)
IC4701
(V OUT)
IC4702
(V OUT)
Y/C MIX
Y/C MIX &6dB AMP
TO LCD/CVF
DA_R
DA_B
DA_G
TO BW/CVF
BWYOUT
BWY0
YOUT
CAM_Y
CAM_C
COUT
BUF
D/A CONV
CLAMP
MOD
LIM
BLK
LPF
SUB CARRIER MODULE
IC3501
(VTR ASP)
PB_C
PB_FM
V_PB_F
A/D LPF
G. EQ
P. EQ
FM AGC
TRAP
SW
CH2 PB AMP
CH4 PB AMP
CH1 PB AMP
CH3 PB AMP
CT SW2
CT SW4
CT SW1
CT SW3
Q3502
Q3501
CH2_S
CH2_F
CH4_S
CH4_F
CH1_S
CH1_F
CH3_S
CH3_F
CN5
R/T
VIDEO HEAD
CH2 CURRENT AMP
CH4 CURRENT AMP
CH1 CURRENT AMP
CH3 CURRENT AMP
PBFMI (AINT)
S_DET+
Q3505
V_REC_C
V_REC_F
REC_C
REC_FM
EQ
REC_C BUF
D/A LPF
LPF
HPF
TRAP
FROM CPU
SCK3
SO3
V_ASP_CS
CLK
DATA
LOAD
SERIAL I/O
2FSC
1/2
CR
CR DET
C3514
SVHSOUT
S_DET_L
A/D
HPF
FM DEMO
DO DET
S_DET
FB CLAMP
MAIN EMPH W/D CLIP
MAIN DE_EMPH
FM MOD
GAIN CTL
D/A
REC_FM OUT
H SW
PC1
Y LPF
REC YNR
D. E
N.L EMPH SUB EMPH
N.L DE_EMPH SUB DE_EMPH
S_ET LPF
C_SYNC B
CHROMA LOGIC
FF CLAMP
LNC PBYNR
NC/PC2
MUTE
I/F
DOCK
SYNC SEP
C SYNC
D4001
Q4001
FROM CPU
V_PLS_ON
REC_C OUT
SYNC ADD
Y CLIP
REC Y :8bit C :4bit
PB (Y+C) 10bit
CBI
DICK
NRBIN
HPF
ACC
LPF
HiFi TRAP
ACC DET
C COMB
DECODER
BURST ADD P.BURST ADD
C ENCODER
BURST EMPH
Chroma Logic
APC DET
NRB_OUT
CPO0
CPO3
GAIN CTL
MUTE P.BURST ERASE
BURST DE_EMPH
L CNR
FSC2OUT
239
2FSC
DSP CONTROL
INTER FACE
NOTE)
*: For SVHS Model

4.27 MONITOR SYSTEM BLOCK DIAGRAM



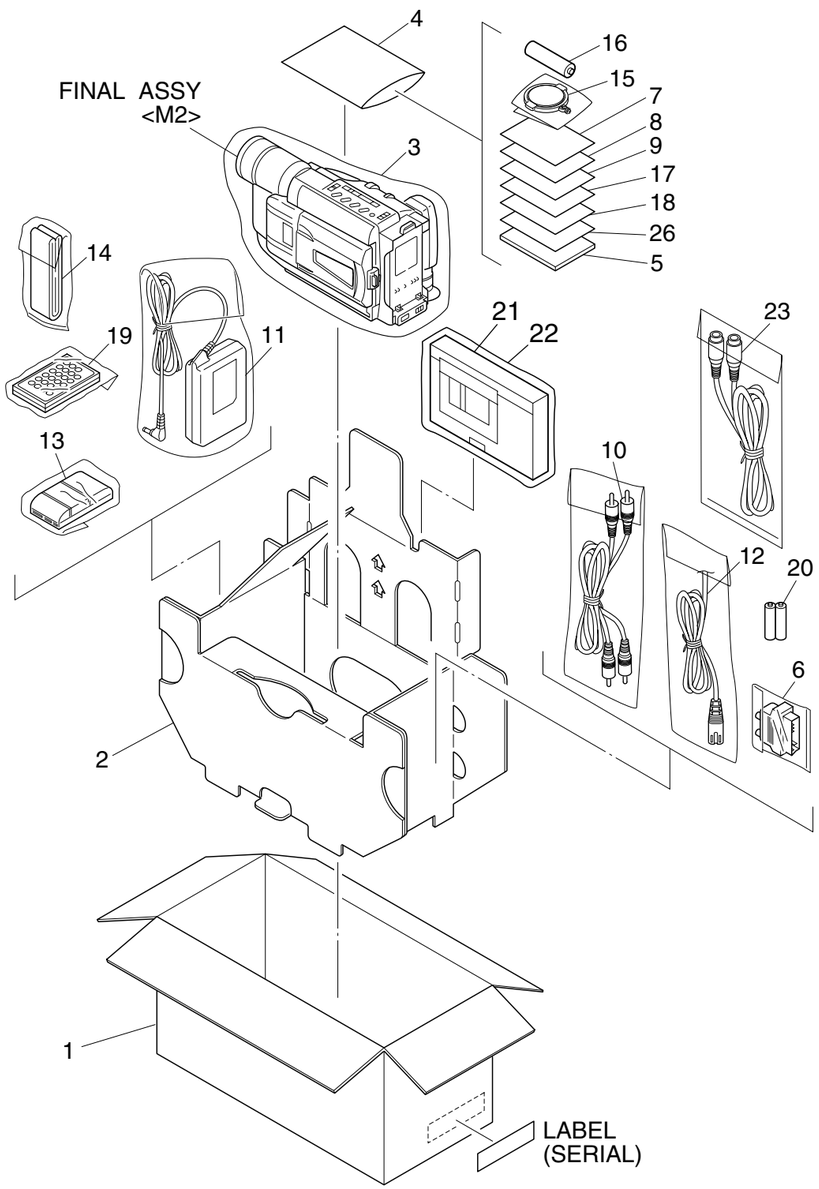
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

PACKING AND ACCESSORY ASSEMBLY <M1>

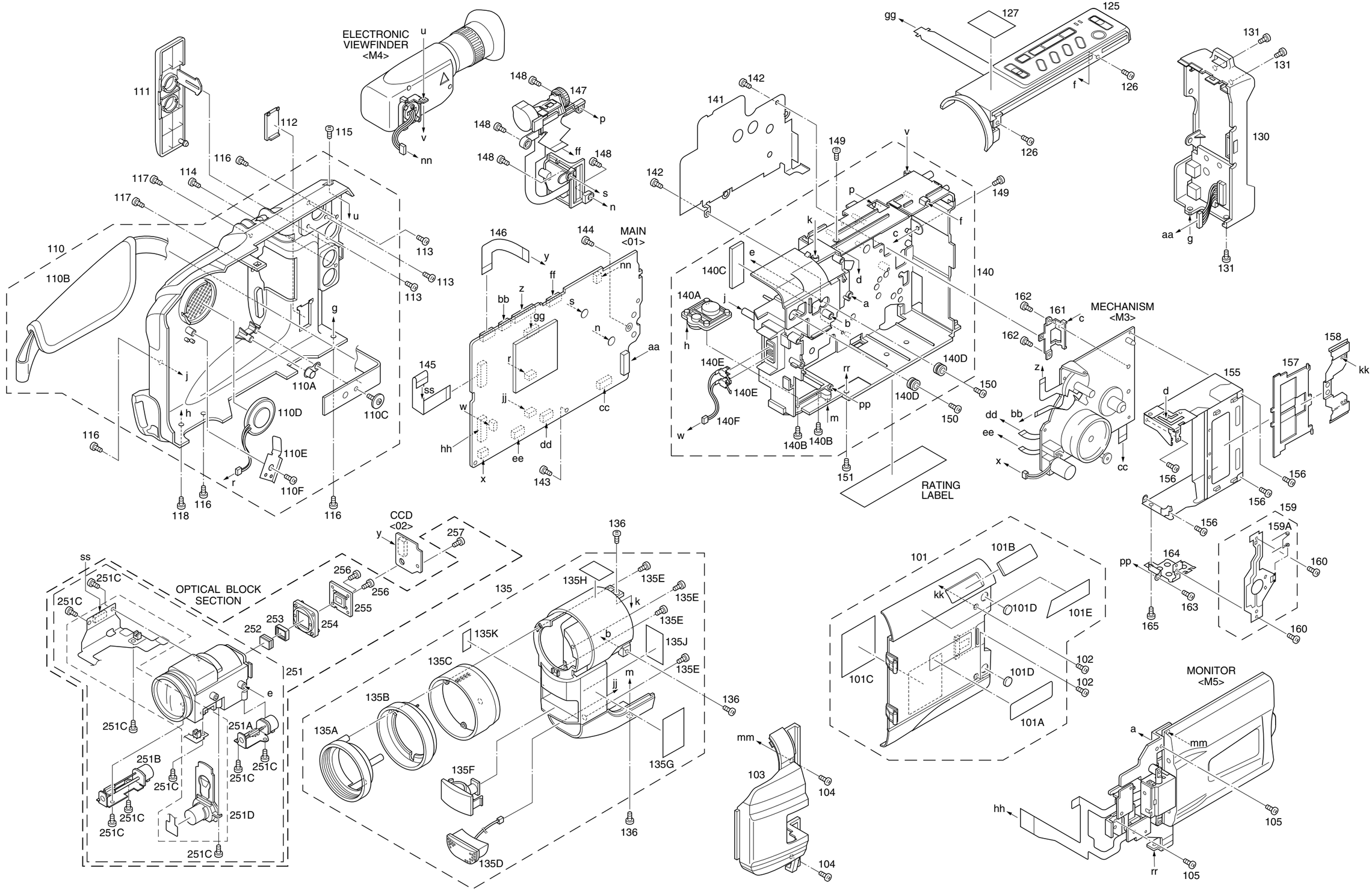
		1	LY32545-002A	PACKING CASE,E,F,G,K,L
			LY32545-003A	PACKING CASE,A,B,C,D
			LY32563-001A	PACKING CASE,J
			LY32563-017A	PACKING CASE,H
		2	LY32553-001A	CUSHION
		3	LY30023-002A	POLY BAG
		4	QPA02003506	POLY BAG,A,B,C,E,G,H,J,K,L
			YQM30061-3	POLY BAG,D,F
	⚠	5	LYT0860-002A	INST.BOOK(GE),B,K
	⚠		LYT0860-002B	INST.BOOK(GE),A,E
	⚠		LYT0860-003B	INST.BOOK(FR),A,E
	⚠		LYT0860-004B	INST.BOOK(DU),A,E
	⚠		LYT0860-005B	INST.BOOK(SP),A,E
	⚠		LYT0860-006B	INST.BOOK(IT),A,E
	⚠		LYT0860-007A	INST.BOOK(DA),B,K
	⚠		LYT0860-008A	INST.BOOK(FI),B,K
	⚠		LYT0860-009A	INST.BOOK(SW),B,K
	⚠		LYT0860-010A	INST.BOOK(NO),B,K
	⚠		LYT0860-011A	INST.BOOK(RU),C,L
	⚠		LYT0860-012A	INST.BOOK(CZ),C,L
	⚠		LYT0860-013A	INST.BOOK(PO),C,L
	⚠		LYT0860-014A	INST.BOOK(HU),C,L
	⚠		LYT0861-001B	INST.BOOK(EN),D,F
	⚠		LYT0868-001A	INST.BOOK(EN),G
	⚠		LYT0903-001A	INST.BOOK(EN),H,J
	⚠		LYT0903-002A	INST.BOOK(CH),H,J
	⚠		LYT0903-003A	INST.BOOK(RU),H,J
		6	PEMC1174	CONNECTOR,CABLE ADAPTER,VC-V3595E,A,B,C,D,E,F,K,L
		7	BT-54008-2	GUARANTY CARD,D,F
		8	BT-54013-2	WARRANTY CARD,A,B,C,E,K,L
			BT-59011-2	WARRANTY CARD,H,J
		9	BT-56002-2	SER.NET CARD,G
		10	PEAC0362-150	CABLE ASSY,AUDIO/VIDEO CABLE
	⚠	11	LY20847-001B	AC ADAPTER,AP-V12EG,A,B,C,E,G,K,L
	⚠		LY20847-001C	AC ADAPTER,AP-V12EG,D,F
	⚠		LY20847-002A	AC ADAPTER,AP-V12ED,H,J
	⚠	12	QMPH020-190-JR	POWER CORD,G
	⚠		QMPP110-190-JR	POWER CORD,D,F
	⚠		QMPS120-190-JR	POWER CORD,H,J
	⚠		QMPL120-190-JR	POWER CORD,A,B,C,E,K,L
	⚠	13	LY31199-001A	BATTERY PACK,BN-V20BU,G,H,J
	⚠		YQ10629E	BATTERY PACK,BN-V11U-E,A,B,C,D,E,F,K,L
		14	LY20186-001A	SHOULDER STRAP
		15	LY43388-001A	LENS CAP
		16	–	BATTERY,AA(R6),G,H,J
		17	BT-56001-2	WARRANTY CARD,G
		18	BT-59012-1	GUARANTY CARD,H,J
		19	LY42129-001A	REMOTE CONTROL UNIT,RM-V715U,J
		20	–	BATTERY,AAA(R03),X2,J
		21	YQ31963B-3	CASSETTE ADAPTER C-P7U,G,H,J
		22	YQ43446	POLY BAG,G,H,J
		23	QAM0004-003	S-VIDEO CABLE,E,F,K,L
		26	LYT0194-001B	Q.CARD(JUK),D,F

MODEL	MARK
GR-FXM38EG-X	A
GR-FXM38EG-Y	B
GR-FXM38EG-Z	C
GR-FXM38EK	D
GR-SXM48EG-X	E
GR-SXM48EK	F
GR-SXM48EA	G
GR-SXM67ED	H
GR-SXM87ED	J
GR-SXM48EG-Y	K
GR-SXM48EG-Z	L

• INSTRUCTIONS

GE ..... GERMAN
FR ..... FRENCH
DU ..... DUTCH
SP ..... SPANISH
IT ..... ITALIAN
DA ..... DANISH
FI ..... FINNISH
SW ..... SWEDISH
NO ..... NORWEGIAN
RU ..... RUSSIAN
CZ ..... CZECH
PO ..... POLISH
HU ..... HUNGARIAN
EN ..... ENGLISH
CH ..... CHINESE

5.2 FINAL ASSEMBLY <M2>



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

FINAL ASSEMBLY <M2>

	101	LY20694-002B	CASSETTE COVER(M)ASSY,A,B,D,E,F,G,H,J,K
		LY20694-009A	CASSETTE COVER(M)ASSY,C,L
	101A	LY40075-004A	LABEL/CAUTION
	101B	LY42883-001A	MARK
	101C	LY40559-001A	SHIELD SHEET
	101D	LY40076-001A	SPACER,X2
	101E	LY43537-001A	STICKER(E),C,L
	102	QYSLSP2030D	SCREW,X2
	103	LY10257-041A	UPPER CASE(M),A,B,C,D
		LY10257-044A	UPPER CASE(M),E,F,G,K,L
		LY10257-059A	UPPER CASE(M),J
		LY10257-061A	UPPER CASE(M),H
	104	QYSLSP2030D	SCREW,X2
	105	QYSLSF2060D	SCREW,X2
	110	LY20684-005A	LOWER CASE ASSY,A,B,C,D
		LY20684-022A	LOWER CASE ASSY,H
		LY20684-023A	LOWER CASE ASSY,E,F,G,J,K,L
	110A	LY40081-001A	CAP
	110B	LY20682-001A	GRIP BELT
	110C	LY30018-003A	SPECIAL SCREW
	110D	QAS0061-001	SPEAKER
	110E	LY42764-001B	HOLDER(SPEAKER)
	110F	QYSLSF2050Z	SCREW
	111	LY31945-003A	COVER(JACK)
	112	LY31946-001A	COVER(JIG)
	113	QYSLSF2050Z	SCREW,X3
	114	QYSLSF2060D	SCREW
	115	QYSLSF2060D	SCREW
	116	QYSLSF2060D	SCREW,X4
	117	QYSLSF2060D	SCREW,X2
	118	QYSLSF2060D	SCREW
	125	LY20614-002C	TOP OPERATION UNIT,E,F,G,J,K,L
		LY20614-014C	TOP OPERATION UNIT,A,B,C,D,H
	126	QYSLSF2060D	SCREW,X2
	127	LY32061-006A	STICKER(D),H,J
	130	LY20615-005F	REAR UNIT,A,B,C,D,E,F,G,K,L
		LY20615-008B	REAR UNIT,J
		LY20615-005E	REAR UNIT,H
	131	QYSLSF2060D	SCREW,X3
	135	LY20683-030A	FRONT COVER ASSY,A,B,C,D,H
		LY20683-033A	FRONT COVER ASSY,E,F,G,J,K,L
	135A	LY31937-001A	HOOD
	135B	LY31938-001A	COVER(HOOD)
	135C	LY31936-001A	RING
	135D	LY32482-001A	MICROPHONE
	135E	QYSLSF2060D	SCREW,X4
	135F	LY30934-022A	COVER(LIGHT),A,B,C,D,H
		LY32040-001A	DC LIGHT,E,F,G,J,K,L
	135G	LY32058-001A	STICKER(A),A,B,C,D,H
		LY32058-002A	STICKER(A),E,F,G,J,K,L
	135H	LY32060-004A	STICKER(C),E,F,G,J,K,L
		LY32060-005A	STICKER(C),A,B,C,D,H
	135J	LY30029-0B4A	SPACER(A),D,E,F,G,J,K,L
⚠	135K	YQ44341-6	CAUTION LABEL,E,F,G,J,K,L
	136	QYSLSF2060D	SCREW,X3
	140	LY20832-001B	FRAME ASSY,E,F,G,J,K,L
		LY20832-002B	FRAME ASSY,A,B,C,D,H
	140A	YQ31843	BASE
	140B	QYSLSF2060D	SCREW,X2
	140C	LY30029-0A4A	SPACER(A)
	140D	LY41082-001A	CUSHION(OP),X2
	140E	YQ43810-1-1	CONTACT(LIGHT),X2,E,F,G,J,K,L
	140F	WJM0259-001A	E-SI C WIRE C-F,FRAME-MAIN CN6,E,F,G,J,K,L
	141	LY32327-001A	SHIELD CASE(MAIN)
	142	QYSPSPU1720Z	SCREW,X2
	143	QYSLSF2060D	SCREW
	144	QYSLSF2060D	SCREW
	145	WJT0072-001A	E-CARD WIRE,OP-MAIN CN15
	146	QAL0389-001	FPC,MAIN CN22-CCD CN5301
	147	LY20613-001B	ZOOM UNIT
	148	QYSLSF2060D	SCREW,X4
	149	LY41173-001A	SPECIAL SCREW,X2
	150	LY30018-050A	SPECIAL SCREW,X2
	151	QYSLSP2030D	SCREW
	155	LY31808-001C	CASSETTE HOUSING FINAL ASSY
	156	LY42722-003A	SCREW,X4
	157	LY30176-001A	CASSETTE COVER INSIDE
	158	LY31956-001A	BRACKET(CASSETTE COVER)
	159	LY31790-001A	FRONT FRAME ASSY
	159A	YQ44144-1-1	TAPE GUIDE
	160	SPSH1725M	SCREW,X2
	161	LY32326-001A	BRACKET(MECHA)
	162	LY42722-003A	SCREW,X2
	163	QYSLSF1750D	SCREW
	164	LY31807-001A	SIDE BRACKET L
	165	LY42722-003A	SCREW

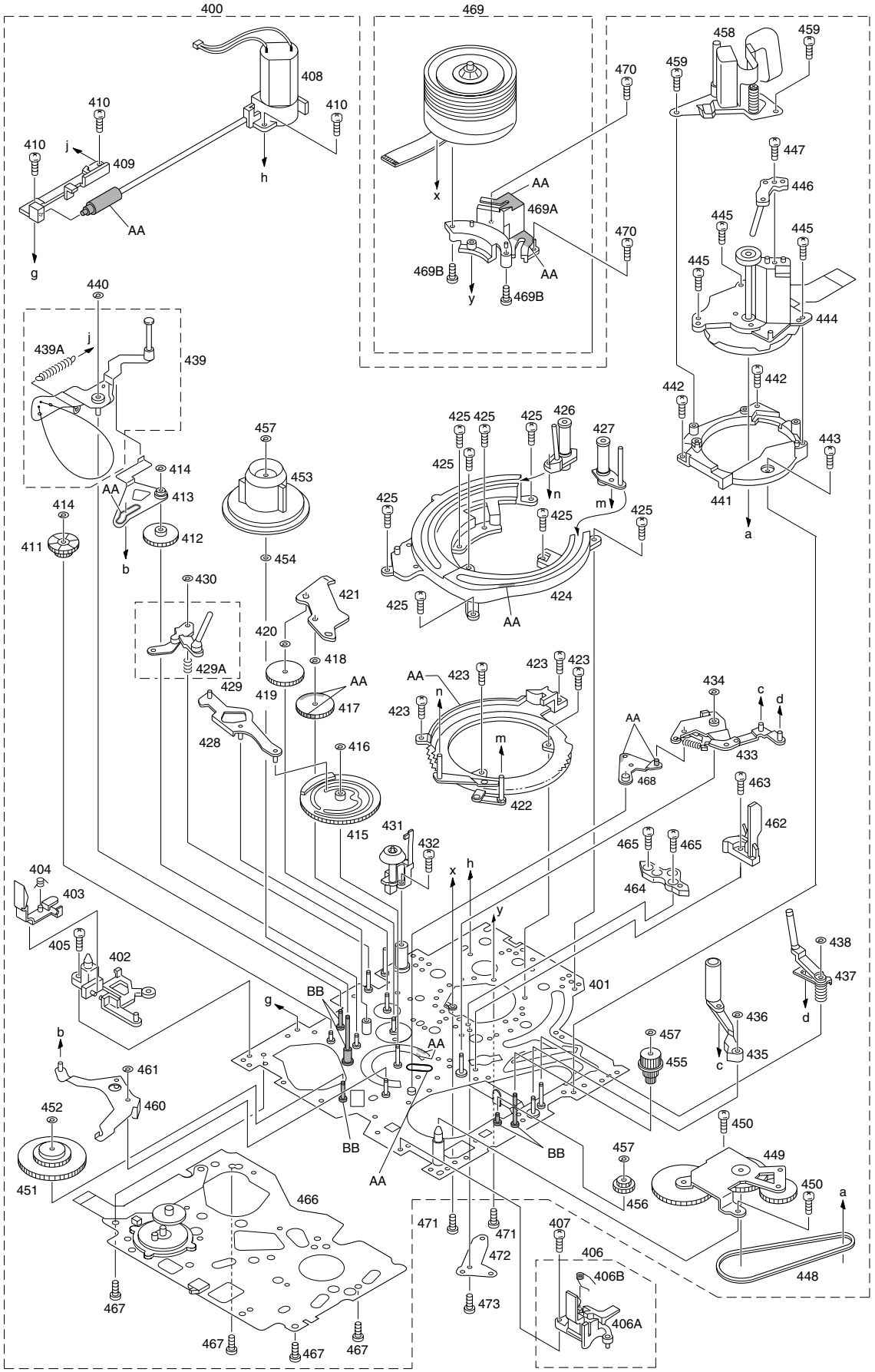
– OPTICAL BLOCK SECTION –

251	LY30948-003A	OP BLOCK ASSY
251A	PTY30948-002	FOCUS MOTOR
251B	PTY30948-301	ZOOM MOTOR
251C	PTY30151-016	TAPPING SCREW,X9
251D	PTY30948-006	IRIS MOTOR UNIT
252	LY43383-001A	OPTICAL LPF
253	LY31370-001A	SPACER RUBBER
254	LY20497-001A	CCD SPACER
255	LYH30374-001A	CCD BASE ASSY
256	QYSPSGU2080Z	SCREW,X2
257	LY30018-072A	SPECIAL SCREW

BEWARE OF BOGUS PARTS

5.3 MECHANISM ASSEMBLY <M3>

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

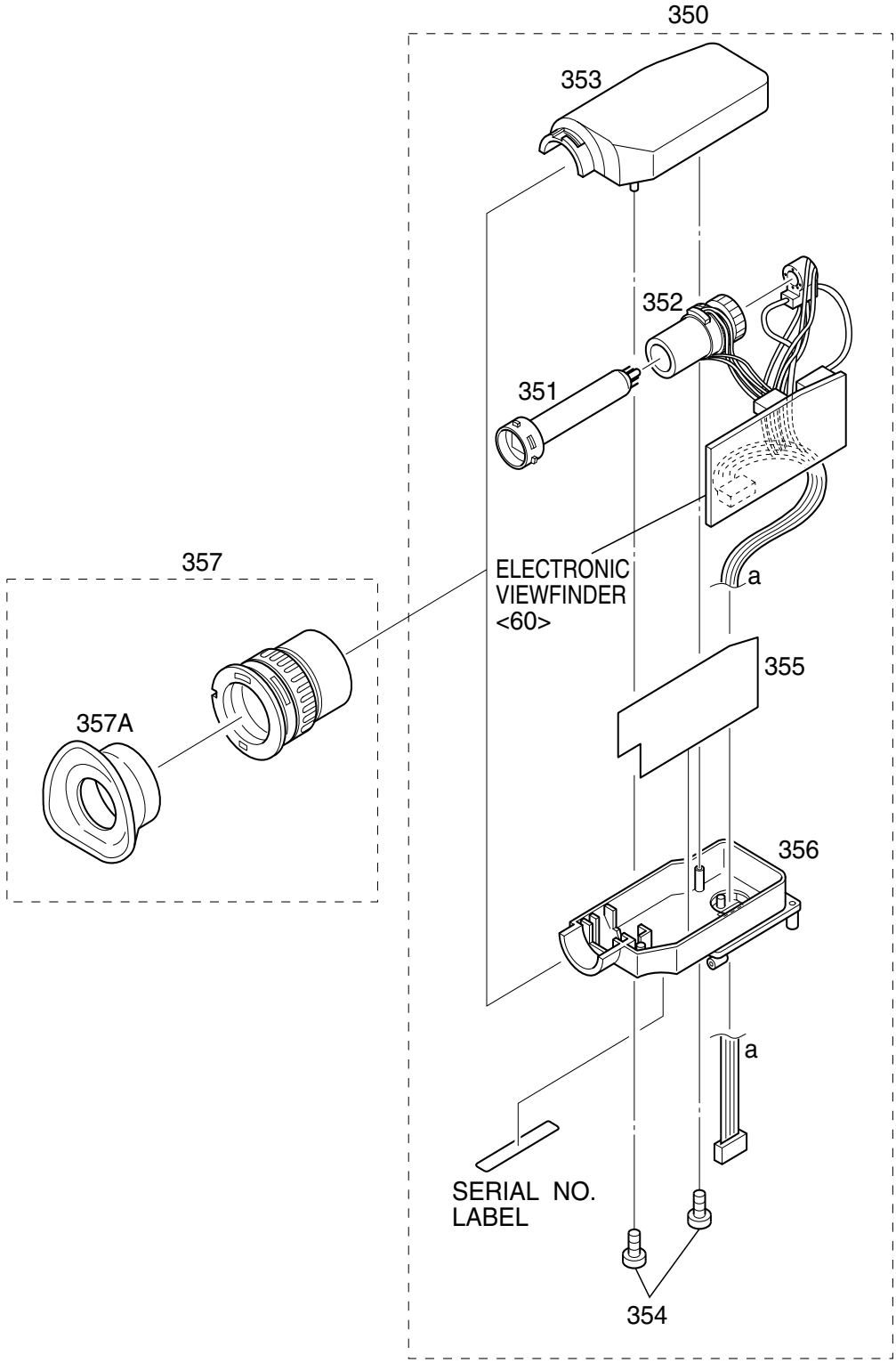
# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION

****

MECHANISM ASSEMBLY <M3>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
400	YMA0033A-E	MECHA(B)ASSY,A,B,C,D
	YMA0034A-E	MECHA(B)ASSY,E,F,G,H,J,K,L
401	LY20612-001B	MAIN DECK ASSY
402	LY31817-001A	CASSETTE GUIDE(LEFT)
403	LY31815-001A	SW LEVER(LEFT)
404	LY42581-001A	TORSION SPRING
405	LY42722-001A	SCREW
406	YQ44339A-7	CASSETTE GUIDE ASSY(RIGHT),E,F,G,H,J,K,L
406A	YQ32162-1-3	SW.LEVER(RIGHT),E,F,G,H,J,K,L
406B	YQ44340-1-4	TORSION SPRING,E,F,G,H,J,K,L
407	LY42819-001A	SCREW,E,F,G,H,J,K,L
408	LY31826-001A	MOTOR BRACKET ASSY
409	YQ20793	WORM BRACKET
410	LY42722-001A	SCREW,X3
411	LY31925-001A	WHEEL GEAR
412	LY42730-001A	MIDDLE GEAR
413	LY42521-001A	CANCEL LEVER ASSY
414	LY42754-003A	SLIT WASHER,X2
415	YQ20827-2-1	CONTROL CAM
416	PQM30017-25	SLIT WASHER
417	LY42733-001A	LOADING GEAR(T)ASSY
418	LY42754-003A	SLIT WASHER
419	LY42732-001A	LOADING GEAR(S)ASSY
420	LY42754-003A	SLIT WASHER
421	LY42403-001A	COVER PLATE
422	LY42452-001A	LOADING RING ASSY
423	LY42728-001A	SCREW,X4
424	LY10239-001A	GUIDE RAIL
425	LY42728-001A	SCREW,X8
426	LY30161-001B	POLE BASE(S)ASSY
427	LY30162-002A	POLE BASE(T)ASSY
428	LY42523-001A	DRIVE LEVER ASSY
429	LY42545-001A	SLANT ARM ASSY
429A	LY42547-001A	TORSION SPRING(S)
430	LY42754-003A	SLIT WASHER
431	LY42739-003A	ROLLER BASE ASSY
432	LY42722-001A	SCREW
433	LY42494-001A	LINK ARM ASSY
434	PQM30017-25	SLIT WASHER
435	LY40018-002A	PINCH ROLLER ARM ASSY
436	PQM30017-25	SLIT WASHER
437	LY42541-001B	TAKE UP GUIDE ARM ASSY
438	LY42754-003A	SLIT WASHER
439	LY42571-001A	TENSION ARM ASSY
439A	LY42669-001A	TENSION SPRING
440	LY42754-003A	SLIT WASHER
441	YQ20797-1-5	MOTOR BASE
442	LY42722-001A	SCREW,X2
443	YQ44460	SCREW
444	QAR0212-001	CAPSTAN MOTOR
445	YQ44304	TAPPING SCREW,X3
446	LY42731-001A	SLANT POLE BASE ASSY
447	YQ44304	TAPPING SCREW
448	YQ43710-2	TIMING BELT
449	LY42678-001A	CENTER PULLEY UNIT
450	LY42722-002A	SCREW,X2
451	LY42670-001A	SUPPLY CLUTCH ASSY
452	LY42754-003A	SLIT WASHER
453	YQ31861-1-7	REEL DISC
454	LY42755-001A	WASHER
455	LY31924-001A	TAKE UP GEAR
456	LY42738-001A	BRAKE SUB GEAR
457	LY42754-003A	SLIT WASHER,X3
458	LY42544-001B	A/C HEAD UNIT
459	SPSN1750Z	SCREW,X2
460	LY42517-001A	EJECT LEVER ASSY
461	LY42754-003A	SLIT WASHER
462	YQ31833-1-1	LED GUIDE
463	LY42722-001A	SCREW
464	LY42729-001A	DRUM SPACER
465	LY42722-001A	SCREW,X2
466	QSW0888-001	ROTARY ENCODER,A,B,C,D
	QSW0888-002	ROTARY ENCODER,E,F,G,H,J,K,L
467	LY42722-002A	SCREW,X4
468	LY31814-001A	LINK LEVER
469	YDV2099A	DRUM ASSY
469A	YDM1003-1-5	CATCHER
469B	QYSPSPU1735M	SCREW,X2
470	LY42722-001A	SCREW,X2
471	SPSH1740Z	SCREW,X2
472	LY43542-001A	BRUSH
473	LY42722-003A	SCREW

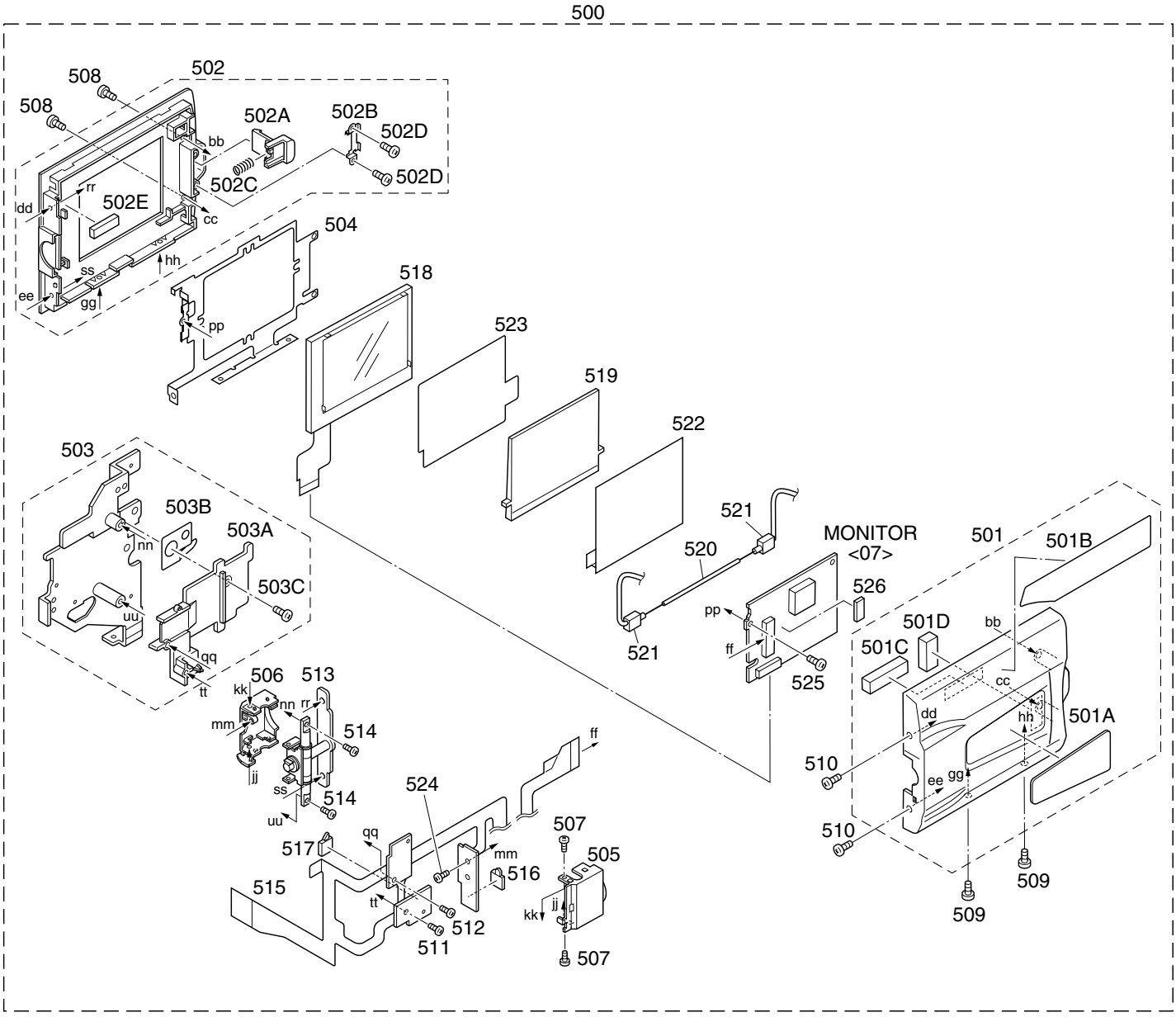
5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4>



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				
				ELECTRONIC VIEWFINDER ASSEMBLY <M4>
	⚠	350	LY20701-009A	B/W VF ASSY
	⚠	351	PEDP0193	CRT
	⚠	352	QQD0026-001	DEFLECTION YOKE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	353	LY10165-001B	CASE(L)
		354	QYSPSGU1760M	TAP SCREW,X2
	⚠	355	LY41280-001A	SHEET(SHIELD)
	⚠	356	PTY20701-011	BOTTOM CASE ASSY
		357	PTY20374-201	LENS ASSY
		357A	LY20411-001A	EYE CAP

5.5 MONITOR ASSEMBLY <M5>



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

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MONITOR ASSEMBLY <M5>

⚠	500	LY20836-001A	MONITOR ASSY,E,F,G,J,K,L
⚠		LY20836-002A	MONITOR ASSY,A,B,C,D
⚠		LY20836-008A	MONITOR ASSY,H
⚠	501	LY20834-001A	MONITOR COVER ASSY,E,F,G,J,K,L
⚠		LY20834-002A	MONITOR COVER ASSY,A,B,C,D
⚠		LY20834-006A	MONITOR COVER ASSY,H
	501A	LY32329-001A	PLATE(WINDOW),A,B,C,D
		LY32329-002A	PLATE(WINDOW),E,F,G,H,J,K,L
	501B	LY32554-001A	STICKER(B),E,F,G,J,K,L
		LY32554-002A	STICKER(B),A,B,C,D,H
	501C	LY30029-0R3A	SPACER(A)
	501D	LY30029-0R4A	SPACER(A)
	502	LY32036-002A	MONITOR CASE(2.5)ASSY
	502A	LY31954-001A	KNOB(LOCK)
	502B	LY42760-001A	BRACKET(LOCK)
	502C	LY30002-043A	COMPRESION SPRING
	502D	LY30018-063A	SPECIAL SCREW,X2
	502E	LY30029-0T7A	SPACER(A)
	503	LY32034-003A	BRACKET(UPPER)ASSY
	503A	LY20652-003A	HOLDER

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		503B	LY42761-001A	EARTH PLATE
		503C	QYSLSP2025D	SCREW
		504	LY32330-001A	SHIELD CASE(2.5)
		505	LY31939-001A	HINGE COVER(UPPER)
		506	LY31940-001A	HINGE COVER(LOWER)
		507	LY30018-0C9A	SPECIAL SCREW,X2
		508	LY30018-052A	SPECIAL SCREW,X2
		509	LY30018-0C9A	SPECIAL SCREW,X2
		510	LY30018-0C5A	SPECIAL SCREW,X2
		511	QYSLSF2040D	SCREW
		512	QYSLSP2070D	SCREW
		513	LY31957-001A	HINGE ASSY
		514	LY30018-090A	SPECIAL SCREW,X2
		515	QAL0391-001	FPC
		516	NSW0095-001X	DETECT SWITCH
		517	NSW0105-001X	DETECT SWITCH
		518	QLD0176-001	LCD MODULE
		519	LY43392-001A	LIGHT SCREEN
		520	QLL0110-001	LAMP
		521	LY43393-001A	HOLDER,X2
		522	LY43396-001A	SHEET(REFLECT)
		523	LY43362-001A	DIFFUSION SHEET(2.5)
		524	LY30018-063A	SPECIAL SCREW
		525	LY30018-0C9A	SPECIAL SCREW
		526	LY30016-049A	SPACER-A

5.6 ELECTRICAL PARTS LIST

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-FXM38EG-X	A	GR-SXM48EG-X	E	GR-SXM87ED	J
GR-FXM38EG-Y	B	GR-SXM48EK	F	GR-SXM48EG-Y	K
GR-FXM38EG-Z	C	GR-SXM48EA	G	GR-SXM48EG-Z	L
GR-FXM38EK	D	GR-SXM67ED	H		

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION

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MAIN BOARD ASSEMBLY <01>

	PW1	YB10356EA1-01	MAIN BOARD ASSY,A,B,C,D
		YB10356EB1-01	MAIN BOARD ASSY,E,F,G,K,L
		YB10356EH1-01	MAIN BOARD ASSY,H
		YB10356EK1-01	MAIN BOARD ASSY,J
	IC101	UPD703039-038	IC(μ C ROM)
		or UPD70F3040-038	IC(μ C ROM)
	IC102	AT25080N-10SC-X	IC
		or CAT25C08SI	IC
		or X25170S8I-2.5-X	IC
		or 25LC080-I/SN-X	IC
	IC103	RS5C314	IC
	IC104	IC-PST3427U-X	IC
	IC105	TC7S66FU	IC(DIGITAL),H,J
⚠	IC1601	LB11951WA-MPB	IC
	IC1602	TA75S393F	IC
	IC1801	PIC-26043S	IR DETECT UNIT,J
		or PIC-37043S	IR DETECT UNIT,J
	IC2001	MC74AC04DT	IC
		or TC74AC04FT	IC(DIGITAL)
	IC2401	NJM2149V	IC
	IC3501	HA118224F	IC
	IC4001	JCY0140-3	IC
	IC4002	Z4C2973-32-X	IC,E,F,G,J,K,L
		or TMS4C2973-28-X	IC,E,F,G,J,K,L
	IC4003	UPD6467GR-512-X	IC(μ C ROM)
	IC4201	BA10324AF-XE	IC
	IC4202	BA10324AF-XE	IC
	IC4501	UPD16835AGS	IC
	IC4701	MM1512XN	IC,A,B,C,D
	IC4702	BA7665FS	IC,E,F,G,H,J,K,L
	IC5201	HD49326BF	IC
	IC5202	JCY0098	IC
	IC6001	FA7706F	IC
	IC6801	S-814A33AUC-W	IC
	Q101	2SA1774/RS/-X	TRANSISTOR
		or 2SA1836/6-7/-X	TRANSISTOR
	Q102	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q103	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q104	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q105	2SA1774/RS/-X	TRANSISTOR
		or 2SA1836/6-7/-X	TRANSISTOR
	Q107	DTC144EE	TRANSISTOR,J
		or RN1104	TRANSISTOR,J
		or UN9213J	TRANSISTOR,J
	Q108	DTC114EE	TRANSISTOR
		or RN1102	TRANSISTOR
		or UN9211J	TRANSISTOR
	Q109	DTC114EE	TRANSISTOR
		or RN1102	TRANSISTOR
		or UN9211J	TRANSISTOR
	Q1601	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q2001	DTA114TE	TRANSISTOR
	Q2007	PUMX1	PAIR TRANSISTOR
		or UMX1N	PAIR TRANSISTOR
		or HN1C01FU/G/-X	PAIR TRANSISTOR
	Q2008	PUMT1	PAIR TRANSISTOR
		or HN1A01FU/G/-X	PAIR TRANSISTOR
	Q2021	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q2022	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q2023	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q2071	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q2401	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q3501	HN1C01FU/G/-X	PAIR TRANSISTOR
	Q3502	HN1C01FU/G/-X	PAIR TRANSISTOR
	Q3505	DTC144EE	TRANSISTOR,E,F,G,H,J,K,L
		or RN1104	TRANSISTOR,E,F,G,H,J,K,L
		or UN9213J	TRANSISTOR,E,F,G,H,J,K.L
	Q3901	HN1A01FU/G/-X	PAIR TRANSISTOR
	Q4001	DTC144EE	TRANSISTOR,E,F,G,H,J,K,L
		or RN1104	TRANSISTOR,E,F,G,H,J,K,L
		or UN9213J	TRANSISTOR,E,F,G,H,J,K,L
	Q4201	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q4202	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q4251	RPM-22PB	PHOTO TRANSISTOR
	Q4501	DTC114EE	TRANSISTOR
		or RN1102	TRANSISTOR
		or UN9211J	TRANSISTOR
	Q4701	2SA1774/QR/-X	TRANSISTOR
		or 2SA1836/5-6/-X	TRANSISTOR
	Q4702	2SA1774/QR/-X	TRANSISTOR
		or 2SA1836/5-6/-X	TRANSISTOR
	Q6101	SSM5G01TU	MOS FET
	Q6201	SSM5G01TU	MOS FET
	Q6301	FDC6506P	MOS FET
	Q6306	SSM3K02F	MOS FET,E,F,G,J,K,L
	Q6401	SSM5G01TU	MOS FET
	Q6501	SSM5G01TU	MOS FET
	Q6608	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q6701	TPC6102	MOS FET
	Q6702	2SC4097/QR/-X	TRANSISTOR
		or 2SC4173/3-4/-X	TRANSISTOR
	Q6802	DTA113ZUA	TRANSISTOR
	Q6811	2SA1577/QR/-X	TRANSISTOR
		or 2SA1608/3-4/-X	TRANSISTOR
	Q7011	PUMX1	PAIR TRANSISTOR
		or HN1C01FU/G/-X	PAIR TRANSISTOR
		or UMX1N	PAIR TRANSISTOR
	Q7013	PUMX1	PAIR TRANSISTOR
		or UMX1N	PAIR TRANSISTOR
		or HN1C01FU/G/-X	PAIR TRANSISTOR
	Q7015	PUMX1	PAIR TRANSISTOR
		or HN1C01FU/G/-X	PAIR TRANSISTOR
		or UMX1N	PAIR TRANSISTOR
	Q7301	2SA1774/QR/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or 2SA1836/5-6/-X	TRANSISTOR	
		Q7310	CPH3101	TRANSISTOR	
		Q7311	2SC4617/QR/-X	TRANSISTOR	
			or 2SC4783/5-6/-X	TRANSISTOR	
	⚠	D101	SB007W03Q	SB DIODE	
		D102	UDZS7.5B	ZENER DIODE	
		D103	1SS355	DIODE	
		D104	1SS355	DIODE	
		D4001	DAN222	DIODE,E,F,G,H,J,K,L	
		D5201	1SS355	DIODE	
		D6301	MBR130	SB DIODE	
		D6601	RB480Y	SB DIODE	
		D6602	RB480Y	SB DIODE	
		D6616	UDZS7.5B	ZENER DIODE	
		D6701	CRS09	SB DIODE	
		D6702	CRS09	SB DIODE	
		R101	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R102	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R103	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R105	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R106	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R107	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
		R108	NRVA63D-243X	CMF RESISTOR	24kΩ,1/16W
		R109	NRVA63D-183X	CMF RESISTOR	18kΩ,1/16W
		R110	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R111	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R112	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R113	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R114	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R115	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R117	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R118	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R119	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R120	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R121	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R122	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
		R125	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R126	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R127	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R128	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R129	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R130	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R136	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
		R138	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R139	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R140	NRSA63J-753X	MG RESISTOR	75kΩ,1/16W
		R141	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R142	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R143	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R144	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R145	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R146	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R147	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R148	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R149	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R150	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R151	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R152	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
		R153	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
		R154	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R155	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	⚠	R156	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R157	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R162	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R163	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R164	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R165	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R166	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R167	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R168	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R169	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R170	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R171	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R172	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R177	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R178	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R181	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R183	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R185	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R188	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R189	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R190	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R1601	NRV142F-R33X	CMF RESISTOR	0.33Ω,1/4W
		R1602	NRV142F-R33X	CMF RESISTOR	0.33Ω,1/4W
		R1603	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1604	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1605	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1606	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1607	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1608	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
		R1609	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1610	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1611	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1612	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1613	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1615	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R1616	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R1617	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1618	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1619	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R1620	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R1621	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R1622	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R1623	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1624	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R1625	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
		R1626	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1627	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R1628	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R2001	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R2002	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
		R2003	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2004	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R2005	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R2006	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2011	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R2012	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R2021	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R2022	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R2023	NRSA63J-820X	MG RESISTOR	82Ω,1/16W
		R2024	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R2025	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
		R2027	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2028	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2030	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R2031	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R2051	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2071	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R2072	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
	R2401	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R2402	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R2403	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R3501	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
	R3502	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R3506	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R3507	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R3508	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
	R3901	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R3902	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R3903	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R4001	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4002	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R4003	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
	R4004	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R4009	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R4010	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R4013	NRSA63J-102X	MG RESISTOR,E,F,G,H,J,K,L	1kΩ,1/16W
	R4014	NRSA63J-103X	MG RESISTOR,E,F,G,H,J,K,L	10kΩ,1/16W
	R4015	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4019	NRSA63D-822X	MG RESISTOR	8.2kΩ,1/16W
	R4020	NRSA63D-471X	MG RESISTOR	470Ω,1/16W
	R4021	NRSA63D-181X	MG RESISTOR	180Ω,1/16W
	R4022	NRSA63D-182X	MG RESISTOR	1.8kΩ,1/16W
	R4025	NRSA63D-222X	MG RESISTOR	2.2kΩ,1/16W
	R4026	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
	R4027	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4028	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4029	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4030	NRSA63J-102X	MG RESISTOR,H,J	1kΩ,1/16W
	R4031	NRSA63J-102X	MG RESISTOR,H,J	1kΩ,1/16W
	R4032	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4033	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R4034	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R4035	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R4201	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4202	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4203	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R4204	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
	R4205	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R4206	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4207	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4208	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R4209	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4210	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R4211	NRSA63J-243X	MG RESISTOR	24kΩ,1/16W
	R4214	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R4215	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R4216	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4217	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4218	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4219	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4220	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
	R4221	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
	R4222	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
	R4223	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
	R4224	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R4251	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R4252	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4253	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4254	NRSA63J-684X	MG RESISTOR	680kΩ,1/16W
	R4255	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R4256	NRSA63J-824X	MG RESISTOR	820kΩ,1/16W
	R4257	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
	R4258	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4259	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R4262	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
⚠	R4501	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠	R4502	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠	R4503	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠	R4504	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
	R4505	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R4507	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4508	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4512	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4514	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R4515	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R4701	NRSA63D-112X	MG RESISTOR	1.1kΩ,1/16W
	R4703	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
	R4704	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
	R4706	NRSA63D-680X	MG RESISTOR	68Ω,1/16W
	R4707	NRSA63D-751X	MG RESISTOR	750Ω,1/16W
	R4709	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
	R4710	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
	R4712	NRSA63D-680X	MG RESISTOR,E,F,G,H,J,K,L	68Ω,1/16W
	R4713	NRSA63D-680X	MG RESISTOR,E,F,G,H,J,K,L	68Ω,1/16W
	R5201	NRSA63J-243X	MG RESISTOR	24kΩ,1/16W
	R5202	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
	R5213	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5214	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5215	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R5216	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5217	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6001	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6002	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
	R6003	NRVA63D-912X	CMF RESISTOR	9.1kΩ,1/16W
	R6004	NRVA63D-681X	CMF RESISTOR	680Ω,1/16W
	R6005	NRVA63D-203X	CMF RESISTOR	20kΩ,1/16W
	R6008	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R6012	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R6015	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6021	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R6024	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
	R6025	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6026	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6027	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6028	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6029	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6103	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
	R6104	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R6203	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R6204	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
	R6303	NRVA63D-183X	CMF RESISTOR	18kΩ,1/16W
	R6304	NRVA63D-472X	CMF RESISTOR	4.7kΩ,1/16W
	R6306	NRS12BK-R47W	MG RESISTOR,E,F,G,J,K,L	0.47Ω,1/2W
	R6307	NRSA63J-104X	MG RESISTOR,E,F,G,J,K,L	100kΩ,1/16W
	R6401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R6501	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R6502	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
	R6603	NRVA63D-683X	CMF RESISTOR	68kΩ,1/16W
	R6604	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
	R6605	NRSA63J-274X	MG RESISTOR	270kΩ,1/16W
	R6606	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R6612	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
R6613	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R6614	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R6616	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R6702	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
R6704	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R6706	NRZ0058-R20X	MG RESISTOR	0.2Ω,1/2W
R6707	NRS016J-121X	MG RESISTOR	120Ω,1W
R6708	NRS016J-121X	MG RESISTOR	120Ω,1W
R6709	NRS016J-121X	MG RESISTOR	120Ω,1W
R6710	NRVA63D-823X	CMF RESISTOR	82kΩ,1/16W
R6711	NRVA63D-333X	CMF RESISTOR	33kΩ,1/16W
R6713	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R6715	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R6801	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6802	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R6811	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R6812	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R6961	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7077	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7086	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7091	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7096	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7110	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R7112	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R7114	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7116	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R7118	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7120	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R7122	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7124	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7127	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7128	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7129	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7130	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7131	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7132	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7135	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7141	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7301	NRVA63D-182X	CMF RESISTOR	1.8kΩ,1/16W
R7305	NRVA63D-821X	CMF RESISTOR	820Ω,1/16W
R7331	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7332	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R7333	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
RA101	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA102	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA103	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA104	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA106	NRZ0038-331X	NETWORK RESISTOR	330Ω
RA107	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA108	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA109	NRZ0038-474X	NETWORK RESISTOR	470kΩ
RA110	NRZ0038-474X	NETWORK RESISTOR	470kΩ
RA111	NRZ0038-474X	NETWORK RESISTOR	470kΩ
RA112	NRZ0038-104X	NETWORK RESISTOR	100kΩ
RA6020	NRZ0038-102X	NETWORK RESISTOR	1kΩ
C103	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C104	NCB31EK-103X	CAPACITOR	0.01μF,25V
C105	NCB21CK-224X	CAPACITOR	0.22μF,16V
C107	NCB31EK-103X	CAPACITOR	0.01μF,25V
C108	NBE21AM-225X	T CAPACITOR	2.2μF,10V
C109	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C110	NDC31HJ-101X	CAPACITOR	100pF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C112	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C113	NCB31EK-103X	CAPACITOR	0.01μF,25V
C114	NCB31EK-103X	CAPACITOR	0.01μF,25V
C115	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C116	NCB31EK-103X	CAPACITOR	0.01μF,25V
C118	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C119	NCB31EK-103X	CAPACITOR	0.01μF,25V
C120	NCB31EK-103X	CAPACITOR	0.01μF,25V
C121	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C122	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C123	NDC31HJ-100X	CAPACITOR	10pF,50V
C124	NDC31HJ-100X	CAPACITOR	10pF,50V
C125	NCB31EK-103X	CAPACITOR	0.01μF,25V
C126	NDC31HJ-100X	CAPACITOR	10pF,50V
C127	NCB31CK-333X	CAPACITOR	0.033μF,16V
C128	NCB21CK-474X	CAPACITOR	0.47μF,16V
C129	NCB31CK-333X	CAPACITOR	0.033μF,16V
C131	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C132	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C133	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C134	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C138	NCB31EK-103X	CAPACITOR	0.01μF,25V
C142	NCB31CK-104X	CAPACITOR	0.1μF,16V
C143	NDC31HJ-3R0X	CAPACITOR	3pF,50V
C1201	NCB31HK-102X	CAPACITOR	0.001μF,50V
C1202	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C1205	NCB31EK-153X	CAPACITOR	0.015μF,25V
C1206	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C1601	NCB21EK-104X	CAPACITOR	0.1μF,25V
C1602	NCB30JK-105X	CAPACITOR	1μF,6.3V
C1603	NCB31EK-103X	CAPACITOR	0.01μF,25V
C1604	NCB31EK-103X	CAPACITOR	0.01μF,25V
C1605	NCB31EK-103X	CAPACITOR	0.01μF,25V
C1606	NCB21EK-104X	CAPACITOR	0.1μF,25V
C1607	NCB21CK-474X	CAPACITOR	0.47μF,16V
C1608	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C1609	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C1610	NCB31HK-681X	CAPACITOR	680pF,50V
C1611	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1612	NCB21CK-105X	CAPACITOR	1μF,16V
C1613	NCB31CK-333X	CAPACITOR	0.033μF,16V
C1614	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1615	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1616	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1617	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1618	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1619	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1620	NBE21AM-106X	T CAPACITOR	10μF,10V
C1621	NBP41CM-106X	T CAPACITOR	10μF,16V
C1625	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1628	NDC31HJ-101X	CAPACITOR	100pF,50V
C1630	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2001	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2002	NFV41HJ-183X	MPPS CAPACITOR	0.018μF,50V
C2003	NDC31HJ-331X	CAPACITOR	330pF,50V
C2004	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C2005	NCB21CK-105X	CAPACITOR	1μF,16V
C2021	NCB31EK-103X	CAPACITOR	0.01μF,25V
C2022	NBE20JM-156X	T CAPACITOR	15μF,6.3V
C2023	NBP21CM-105X	T CAPACITOR	1μF,16V
C2024	NCB31HK-102X	CAPACITOR	0.001μF,50V
C2025	NCB21CK-105X	CAPACITOR	1μF,16V
C2026	NCB31HK-222X	CAPACITOR	0.0022μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C2027	NCB21CK-474X	CAPACITOR	0.47µF,16V
C2028	NCB21CK-105X	CAPACITOR	1µF,16V
C2029	NCB21CK-105X	CAPACITOR	1µF,16V
C2031	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2032	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C2033	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
C2034	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2035	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C2036	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2038	NCB21CK-474X	CAPACITOR	0.47µF,16V
C2039	NDC31HJ-330X	CAPACITOR	33pF,50V
C2051	NCB31EK-103X	CAPACITOR	0.01µF,25V
C2071	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2072	NCB31HK-222X	CAPACITOR	0.0022µF,50V
C2401	NEA70GM-476X	E CAPACITOR	47µF,4.0V
C2402	NCB21CK-105X	CAPACITOR	1µF,16V
C2403	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
C2404	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C3506	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3507	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3508	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3509	NDC31HJ-221X	CAPACITOR	220pF,50V
C3510	NCB31CK-104X	CAPACITOR	0.1µF,16V
C3512	NCB10JK-106X	CAPACITOR	10µF,6.3V
C3513	NCB31CK-223X	CAPACITOR	0.022µF,16V
C3514	NCB30JK-105X	CAPACITOR	1µF,6.3V
C3515	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3516	NDC31HJ-100X	CAPACITOR	10pF,50V
C3902	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3903	NDC31HJ-3R0X	CAPACITOR	3pF,50V
C4002	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4003	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4004	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4005	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4007	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4008	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4009	NDC31HG-100X	CAPACITOR	10pF,50V
C4010	NDC31HG-100X	CAPACITOR	10pF,50V
C4012	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4013	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4014	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4015	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4016	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4017	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4018	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4019	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4020	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4021	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4023	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4024	NCF31EZ-104X	CAPACITOR,E,F,G,H,J,K,L	0.1µF,25V
C4025	NCB31CK-104X	CAPACITOR,E,F,G,H,J,K,L	0.1µF,16V
C4026	NCB10JK-106X	CAPACITOR	10µF,6.3V
C4027	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4028	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4029	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4030	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4031	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4032	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4033	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4034	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4035	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4036	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4037	NCF31EZ-104X	CAPACITOR	0.1µF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C4038	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4039	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4040	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4041	NCB30JK-105X	CAPACITOR,H,J	1µF,6.3V
C4042	NCB30JK-105X	CAPACITOR,H,J	1µF,6.3V
C4044	NCB30JK-105X	CAPACITOR,E,F,G,J,K,L	1µF,6.3V
C4045	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4046	NDC31HJ-221X	CAPACITOR	220pF,50V
C4047	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4048	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4201	NEA71HM-225X	E CAPACITOR	2.2µF,50V
C4202	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4203	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4205	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4206	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4207	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4208	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4209	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4210	NCF21CZ-105X	CAPACITOR	1µF,16V
C4251	NEA71HM-335X	E CAPACITOR	3.3µF,50V
C4252	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4253	NCB31EK-153X	CAPACITOR	0.015µF,25V
C4254	NCB31EK-153X	CAPACITOR	0.015µF,25V
C4256	NEA71CM-106X	E CAPACITOR	10µF,16V
C4504	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4505	NDC31HJ-330X	CAPACITOR	33pF,50V
C4506	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4507	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4508	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4509	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4510	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4511	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4512	NEA71CM-107X	E CAPACITOR	100µF,16V
C4702	NDC31HJ-270X	CAPACITOR	27pF,50V
C4703	NDC31HJ-150X	CAPACITOR	15pF,50V
C4704	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4705	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4706	NEA70GM-107X	E CAPACITOR	100µF,4.0V
C4707	NEA70JM-226X	E CAPACITOR	22µF,6.3V
C4708	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4709	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C4713	NEA70JM-226X	E CAPACITOR,E,F,G,H,J,K,L	22µF,6.3V
C4714	NEA70GM-107X	E CAPACITOR,E,F,G,H,J,K,L	100µF,4.0V
C4715	NCB31EK-103X	CAPACITOR,E,F,G,H,J,K,L	0.01µF,25V
C4716	NDC31HJ-270X	CAPACITOR	27pF,50V
C4717	NDC31HJ-150X	CAPACITOR	15pF,50V
C5203	NCB10JK-106X	CAPACITOR	10µF,6.3V
C5207	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5208	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5209	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5210	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5211	NCB21CK-105X	CAPACITOR	1µF,16V
C5212	NCB21CK-105X	CAPACITOR	1µF,16V
C5213	NCB31HK-332X	CAPACITOR	0.0033µF,50V
C5214	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5218	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5219	NBP21CM-685X	T CAPACITOR	6.8µF,16V
C5221	NCB11EK-105X	CAPACITOR	1µF,25V
C5222	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5223	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5225	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5227	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5228	NCF31EZ-104X	CAPACITOR	0.1µF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C5229	NCB11EK-105X	CAPACITOR	1µF,25V
C5230	NCB21EK-104X	CAPACITOR	0.1µF,25V
C5232	NDC31HJ-100X	CAPACITOR	10pF,50V
C5233	NDC31HJ-100X	CAPACITOR	10pF,50V
C5234	NDC31HJ-100X	CAPACITOR	10pF,50V
C5235	NDC31HJ-100X	CAPACITOR	10pF,50V
C5236	NDC31HJ-100X	CAPACITOR	10pF,50V
C5237	NDC31HJ-100X	CAPACITOR	10pF,50V
C6002	NEA71CM-106X	E CAPACITOR	10µF,16V
C6004	NCF21CZ-105X	CAPACITOR	1µF,16V
C6005	NCB21CK-105X	CAPACITOR	1µF,16V
C6006	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6007	NCB21CK-105X	CAPACITOR	1µF,16V
C6009	NDC31HJ-101X	CAPACITOR	100pF,50V
C6010	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6011	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6012	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6013	NCB21CK-154X	CAPACITOR	0.15µF,16V
C6014	NCB31CK-104X	CAPACITOR	0.1µF,16V
C6015	NCB31CK-104X	CAPACITOR	0.1µF,16V
C6016	NCB31EK-473X	CAPACITOR	0.047µF,25V
C6017	NCF21CZ-105X	CAPACITOR	1µF,16V
C6018	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6020	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6021	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6101	NCB21CK-105X	CAPACITOR	1µF,16V
C6102	NCB10JK-106X	CAPACITOR	10µF,6.3V
C6105	NCB31HK-681X	CAPACITOR	680pF,50V
C6110	NCB31HK-152X	CAPACITOR	0.0015µF,50V
C6201	NCB21CK-105X	CAPACITOR	1µF,16V
C6202	NCB10JK-106X	CAPACITOR	10µF,6.3V
C6203	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C6205	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C6210	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C6301	NCB11CK-225X	CAPACITOR	2.2µF,16V
C6302	NCB10JK-106X	CAPACITOR	10µF,6.3V
C6303	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C6305	NCB31HK-561X	CAPACITOR	560pF,50V
C6307	NEA71CM-106X	E CAPACITOR,E,F,G,J,K,L	10µF,16V
C6310	NCB31HK-102X	CAPACITOR	0.001µF,50V
C6401	NCB21CK-105X	CAPACITOR	1µF,16V
C6402	NCF21CZ-105X	CAPACITOR	1µF,16V
C6501	NCB21CK-105X	CAPACITOR	1µF,16V
C6502	NCF21CZ-105X	CAPACITOR	1µF,16V
C6602	NCF21CZ-105X	CAPACITOR	1µF,16V
C6603	NCB11EK-105X	CAPACITOR	1µF,25V
C6606	NCB11EK-105X	CAPACITOR	1µF,25V
C6607	NCF21CZ-105X	CAPACITOR	1µF,16V
C6610	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6616	NCB21CK-105X	CAPACITOR	1µF,16V
C6701	NCB21CK-105X	CAPACITOR	1µF,16V
C6702	NCB41CK-106X	CAPACITOR	10µF,16V
C6711	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C6801	NCF21CZ-105X	CAPACITOR	1µF,16V
C6802	NCF21CZ-105X	CAPACITOR	1µF,16V
C6811	NCB21CK-105X	CAPACITOR	1µF,16V
C7051	NCB31EK-103X	CAPACITOR	0.01µF,25V
C7052	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C7053	NCB31EK-103X	CAPACITOR	0.01µF,25V
C7054	NBP41EM-475X	T CAPACITOR	4.7µF,25V
C7064	NCB11EK-105X	CAPACITOR	1µF,25V
C7065	NCB11EK-105X	CAPACITOR	1µF,25V
C7066	NCB11EK-105X	CAPACITOR	1µF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C7069	NCB31EK-103X	CAPACITOR	0.01µF,25V
C7325	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C7326	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C7329	NDC31HJ-100X	CAPACITOR	10pF,50V
L101	NQL365K-220X	COIL	22µH
L501	NRSA63J-0R0X	MG RESISTOR,H,J	0Ω,1/16W
L1601	NQL144M-1R0X	COIL	1.0µH
L1602	NQL144K-100X	COIL	10µH
L2001	NQL144K-470X	COIL	47µH
L2003	NQL034K-470X	COIL	47µH
L2004	NQR0403-003X	FERRITE BEAD	
L2005	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2021	NQL315K-470X	COIL	47µH
L2022	NQR0403-003X	FERRITE BEAD	
L2023	NQR0406-003X	FERRITE BEAD	
L2051	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2052	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2071	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2072	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2401	NQL315K-470X	COIL	47µH
L3502	NQL365K-220X	COIL	22µH
L3503	NQL085J-5R6X	COIL	5.6µH
L4001	NQL365K-220X	COIL	22µH
L4201	NQR0006-001X	FERRITE BEAD	
L4501	NQR0006-001X	FERRITE BEAD	
L4502	NQL034K-220X	COIL	22µH
L4701	NQL365K-220X	COIL	22µH
L5201	NQL315K-470X	COIL	47µH
L5202	NQL365K-220X	COIL	22µH
L5203	NQL365K-220X	COIL	22µH
L6001	NQL62EM-100X	COIL	10µH
L6002	NQL62EM-100X	COIL	10µH
L6101	NQL64EM-330X	COIL	33µH
L6201	NQL64EM-470X	COIL	47µH
L6301	NQL52EM-220X	COIL	22µH
L6302	NQR0006-001X	FERRITE BEAD	
L6401	NQLZ011-470X	COIL	47µH
L6501	NQLZ011-470X	COIL	47µH
L6601	NQL52EM-221X	COIL	220µH
L6701	NQL52EM-100X	COIL	10µH
L7005	NQL365K-220X	COIL	22µH
L7006	NQL365K-220X	COIL	22µH
L7304	NQL144K-100X	COIL	10µH
X101	NAX0251-001X	CRYSTAL RESONATOR	
X102	NAX0325-001X	CRYSTAL RESONATOR	
X4001	QAX0708-001	CRYSTAL RESONATOR	
WR1	WJV0039-001A	E-PRIMARY WIRE,JP2001/2002-JP2003/2004	
⚠ J101	QAB0050-001	LI BATTERY	
J504	LY31356-002A	JACK UNIT	
J505	QND0068-001	S JACK,E,F,G,H,J,K,L	
CN1	QGF0508F1-10X	FPC CONNECTOR	
CN2	QGF0508F1-14X	FPC CONNECTOR	
CN3	QGF0505F2-18X	FPC CONNECTOR	
CN4	QGA1201F2-02X	CONNECTOR	
CN5	QGF0508F1-11X	FPC CONNECTOR	
CN6	QGA1201C2-02X	CONNECTOR,E,F,G,J,K,L	
CN7	QGF0508F1-11X	FPC CONNECTOR	
CN8	QGA1201C2-02X	CONNECTOR	
CN12	QGA1201F2-03X	CONNECTOR	
CN13	QGF0507F3-14X	FFC/FPC CONNECTOR,H,J	
	QGF0507F4-14X	FFC/FPC CONNECTOR,A,B,C,D,E,F,G,K,L	
CN15	QGF0507F3-22X	FFC/FPC CONNECTOR	
CN16	QGF0508F1-25X	FPC CONNECTOR	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	CN18	QGF0507F3-12X	FFC/FPC CONNECTOR,H,J	
		QGF0507F4-12	FFC/FPC CONNECTOR,A,B,C,D,E,F,G,K,L	
	CN22	QGF0508F1-14X	FPC CONNECTOR	
	CN25	QGB0506L1-30X	CONNECTOR	
	CN27	QGA1201C2-02X	CONNECTOR	
	CN28	QGA1002F1-13X	CONNECTOR	
⚠	F6001	NMFZ007-2R0X-K	FUSE	T2.0A,50V
⚠	F6002	NMFZ007-1R25X-K	FUSE	T1.2A,50V
⚠	F6004	NMFZ007-R40X-K	FUSE	T0.4A,50V
⚠	F7301	NMFZ010-R50X-A	FUSE	T0.5A
	OT1	LY30016-049A	SPACER-A	
	OT2	PU59915-105	#500SPACER0.01	
	SD1	LY43421-001A	SHIELD PLATE	

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CCD BOARD ASSEMBLY <02>

PW2	YB10356A2-01	CCD BOARD ASSY	
Q5301	2SC3931/CD/-X	TRANSISTOR	
	or 2SC4774/RS/-X	TRANSISTOR	
R5301	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R5302	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
C5301	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C5302	NBP21EM-155X	T CAPACITOR	1.5μF,25V
C5303	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C5304	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C5305	NDC31HJ-270X	CAPACITOR	27pF,50V
CN5301	QGF0505F1-14X	FPC CONNECTOR	

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MONITOR BOARD ASSEMBLY <07>

PW	YB20913A	MONITOR BOARD ASSY
IC7601	MN5814	IC
IC7602	BA4558F	IC
IC7603	SN74AHC1G04K	IC
Q7501	2SD1664/QR/-W	TRANSISTOR
Q7502	2SD1664/QR/-W	TRANSISTOR
Q7503	DTA144EE	TRANSISTOR
	or RN2104	TRANSISTOR
	or UN9113J	TRANSISTOR
Q7504	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q7601	2SC4617/QR/-X	TRANSISTOR
Q7602	2SA1774/QR/-X	TRANSISTOR
Q7603	2SC4617/QR/-X	TRANSISTOR
Q7604	2SA1774/QR/-X	TRANSISTOR
Q7606	DTA144EE	TRANSISTOR
	or RN2104	TRANSISTOR
	or UN9113J	TRANSISTOR
Q7607	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
D7601	MA365	VARI CAP DIODE
D7602	RB471E	SB DIODE
D7603	UDZS5.1B	ZENER DIODE

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R7501	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7502	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7503	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7601	NRSA63D-103X	MG RESISTOR	10kΩ,1/16W
	R7602	NRSA63D-752X	MG RESISTOR	7.5kΩ,1/16W
	R7603	NRSA63D-333X	MG RESISTOR	33kΩ,1/16W
	R7604	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
	R7605	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
	R7606	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R7607	NRSA63D-822X	MG RESISTOR	8.2kΩ,1/16W
	R7608	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
	R7610	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R7611	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7612	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
	R7613	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R7615	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7617	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7618	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7621	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7624	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7625	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7628	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R7629	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R7630	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R7631	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7632	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R7635	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7636	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7637	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7638	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7639	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7640	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R7641	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R7645	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
	R7646	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R7648	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R7650	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R7651	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	C7501	NCZ1016-120X	CAPACITOR	12pF,2kV
	C7502	NCB21EK-273X	CAPACITOR	0.027μF,25V
	C7503	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7504	NCB10JK-106X	CAPACITOR	10μF,6.3V
	C7601	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C7602	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7606	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7607	NBP41EM-475X	T CAPACITOR	4.7μF,25V
	C7608	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7609	NBP41CM-106X	T CAPACITOR	10μF,16V
	C7610	NDC31HJ-330X	CAPACITOR	33pF,50V
	C7611	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7612	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7613	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7614	NCB21CK-334X	CAPACITOR	0.33μF,16V
	C7615	NDC31HJ-331X	CAPACITOR	330pF,50V
	C7616	NDC31HJ-330X	CAPACITOR	33pF,50V
	C7617	NDC31HJ-220X	CAPACITOR	22pF,50V
	C7618	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7619	NDC31HJ-270X	CAPACITOR	27pF,50V
	C7620	NDC31HJ-270X	CAPACITOR	27pF,50V
	C7621	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C7622	NCB11CK-225X	CAPACITOR	2.2μF,16V
	C7623	NCB31EK-682X	CAPACITOR	0.0068μF,25V
	C7624	NCB31EK-103X	CAPACITOR	0.01μF,25V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C7625	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7626	NBP41EM-475X	T CAPACITOR	4.7µF,25V
		C7627	NCB31EK-103X	CAPACITOR	0.01µF,25V
		L7501	NQLZ010-680X	COIL	68µH
		L7502	NQL03BK-100X	COIL	10µH
		L7601	NQL38DK-220X	COIL	22µH
		L7604	NQL38DK-220X	COIL	22µH
		L7605	NQL085J-4R7X	COIL	4.7µH
		T7501	NQS0056-001X	SW TRANSFORMER	
		CN7601	QGF0503F2-25X	FFC/FPC CONNECTOR	
		CN7602	QGF0508F1-24X	FPC CONNECTOR	
	⚠	F7501	NMFZ007-R40X-K	FUSE	T0.4A,50V

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E.VF BOARD ASSEMBLY <60>

	PW	LY41289-006A	E.VF BOARD ASSY
	IC7001	BA7149F-XE	IC
	Q7001	2SD968A(RS)	PH TRANSISTOR
	Q7002	2SA1748(QR)	PH TRANSISTOR
	Q7003	2SA1748(QR)	PH TRANSISTOR
	D7001	MA142WA	DIODE
	R7002	NRSA02J-3R9X	MG RESISTOR 3.9Ω,1/10W
	R7003	NRVA02D-183X	CMF RESISTOR 18kΩ,1/10W
	R7005	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
	R7006	NRSA02J-113X	MG RESISTOR 11kΩ,1/10W
	R7007	NRSA02J-330X	MG RESISTOR 33Ω,1/10W
	R7008	NRSA02J-394X	MG RESISTOR 390kΩ,1/10W
	R7009	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
	R7010	NRVA02D-104X	CMF RESISTOR 100kΩ,1/10W
	R7011	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W
	R7012	NRSA02J-221X	MG RESISTOR 220Ω,1/10W
	R7013	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
	R7014	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
	R7015	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W
	R7016	NRSA02J-122X	MG RESISTOR 1.2kΩ,1/10W
	R7017	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
	R7018	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W
	R7019	NRSA02J-120X	MG RESISTOR 12Ω,1/10W
	R7020	NRSA02J-685X	MG RESISTOR 6.8MΩ,1/10W
	R7021	NRSA02J-475X	MG RESISTOR 4.7MΩ,1/10W
	R7022	NRSA02J-475X	MG RESISTOR 4.7MΩ,1/10W
	R7023	NRSA02J-564X	MG RESISTOR 560kΩ,1/10W
	R7024	NRSA02J-105X	MG RESISTOR 1MΩ,1/10W
	R7025	NRSA02J-275X	MG RESISTOR 2.7MΩ,1/10W
	R7026	NRSA02J-275X	MG RESISTOR 2.7MΩ,1/10W
	VR7001	NVP0001-221X	TRIM RESISTOR,V.SIZE
	VR7002	NVP0001-225X	TRIM RESISTOR,BRIGHT
	VR7003	PERE0595-565	V RESISTOR,FOCUS
	C7001	QFV11HJ-104A	F CAPACITOR 0.1µF,50V
	C7002	QEDP1AM-227	E CAPACITOR 220µF,10V
	C7003	QEDP1AM-227	E CAPACITOR 220µF,10V
	C7004	QEDP1AM-227	E CAPACITOR 220µF,10V
	C7005	NCF21CZ-105X	CAPACITOR 1µF,16V
	C7006	NCB21HK-152X	CAPACITOR 0.0015µF,50V
	C7007	NCB11CK-105X	CAPACITOR 1µF,16V
	C7008	NCF21CZ-105X	CAPACITOR 1µF,16V
	C7009	PECA1131-A107	E CAPACITOR 100µF,10V
	C7010	CM316UJ472J100A	CAPACITOR
	C7011	NDC21HJ-180X	CAPACITOR 18pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C7012	QEKC1HM-105Z	E CAPACITOR	1µF,50V
		C7013	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C7014	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C7015	QCZ0212-151	CAPACITOR	150pF,1kV
		C7016	PECA1006	CAPACITOR	330pF,500V
		L7001	QQR0970-001	LINEARITY COIL	
		L7002	PU49994-220	COIL	22µH
		L7003	PELN1101-680JY	COIL	68µH
	⚠	T7001	QQH0011-002	FB TRANSF	
		CN7001	B4B-ZR	CAP HOUSING	
		CN7002	WJK0095-002A	WIRE ASSY	
		OT1	PU59915-105	SPACER#500,for L7001	